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ABSTRACT

This document is the text of a Senate hearing on prospects for better health for older women. Senator Glenn's opening remarks discuss the importance of health promotion measures in reducing chronic illnesses, the lack of insurance for these health promotion activities, specific problems for "pink-collar" working women, and biomedical advancement. Opening statements are also included from Congresswoman Kaptur and from Martin Janis, the director of the Ohio Commission on Aging. Billie Sewell Johnson, director of the Area Agency on Aging testifies about local programs and the problems older women have in securing health care. Eileen Metress, professor of health education at the University of Toledo testifies about the effects of cigarette smoking, diet, and exercise on the incidence of osteoporosis, heart disease, and cancer. Dr. John McGreevey, director of the Office of Geriatrics of the Medical College of Ohio discusses health care needs of the elderly. Robert Harootyan of the Office of Technology Assessment testifies about the demography of aging. Dr. Raymond Gifford of the Cleveland Clinic examines the issue of hypertension in the elderly. Deanne Damschroder of the Arthritis Foundation discusses arthritis in the elderly. An appendix includes written statements submitted by interested persons. (ABL)

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S. Hrg. 99-128

PROSPECTS FOR BETTER HEALTH FOR OLDER WOMEN

ED267365

HEARING

BEFORE THE

SPECIAL COMMITTEE ON AGING
UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

TOLEDO, OH

APRIL 15, 1985

Serial No. 99-3

CG 018946

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PROSPECTS FOR BETTER HEALTH FOR OLDER WOMEN

MONDAY, APRIL 15, 1985

U.S. SENATE,
SPECIAL COMMITTEE ON AGING,
Toledo, OH.

The hearing met, pursuant to notice, at 9:30 a.m., at the Medical College of Ohio, Toledo, OH, Hon. John Glenn presiding.

Present: Senator Glenn, Congresswoman Kaptur, and Martin Janis.

Also present: Diane Lifsey, minority staff director, Jane Jeter and Eileen Bradner, professional staff members and Susan Able, staff intern.

OPENING STATEMENT BY SENATOR JOHN GLENN, PRESIDING

Senator GLENN. The hearing will please come to order. This is an official meeting, a hearing of the U.S. Senate's Special Committee on Aging, entitled, "Prospects for Better Health for Older Women." We're particularly gratified to be having this hearing in Toledo and to have such a fine panel of witnesses this morning—and not only Marcy Kaptur, who I'm sure most of you know here, but also Martin Janis who is with us. I'm glad to have him here in addition to the other participants that we have with us today. I might suggest that until the air-conditioning gets on, if any of you gentlemen wish to take your coats off, we'll consider that quite appropriate this morning to make yourselves comfortable. This is a far larger crowd then we expected. As Marcy and I said before, we're very gratified to see everyone here and hope that we accomplish a great deal and bring out all of the information that we're looking for.

I want to welcome each and every one of you to this hearing. It is an official hearing of the U.S. Senate's Special Committee on Aging entitled "Prospects for Better Health for Older Women." It is a very special pleasure to be here holding today's hearing, and I want to thank the Medical College of Ohio [MCO] for making these facilities available to us. We had the hearing here today not by accident, but because this is one of the few medical schools in the country that does have a special course in geriatrics and gerontology. So we hold it here not by accident, not just because it's Ohio, but because we want to see MCO become a center for study of the problems of the elderly.

I also want to thank Congresswoman Marcy Kaptur for taking the time to be with us today. As a single woman and a Member of the Congress, Representative Kaptur exemplifies the changing life-

style of many American women. I know that those of you from the Toledo area will agree with me when I say that Marcy is doing a truly outstanding job in Washington. Let me add that behind this successful woman stands another woman. Marcy's mother—Mrs. Sherri Kaptur—has made an enormous contribution to Marcy's success, and together, they have formed what is one of the most dynamic mother-daughter teams in the history of Ohio politics.

I'm sure I don't have to remind any of you of what today is. It's April 15. Sorry to have to bring this up and put a damper on the whole proceedings here. It's income tax day, and I think it was Mark Twain who said that taxes are one of only two things that are inevitable. The other inevitable, of course, was what Maurice Chevalier was referring to when he said that "growing old is not so bad—especially when you consider the alternative."

Well, the main reason we've gathered here today is to talk about how that alternative can be postponed as long as possible—and how we can help make growing older with good health a reality for millions of American citizens. In fact, my wife Annie is here with me today. Please come up here for just a moment. She went out last Christmastime and bought me a T-shirt that I think is appropriate especially for today's hearing. It's a T-shirt that I think says exactly what we're trying to accomplish. I wanted to show you these two [T-shirts]. They say, "I'm not getting older—I'm getting better." That's what we want for everyone. I hope that with this series of hearings we're having we can really bring enough to light that we can make a difference for the fastest growing part of our population. As those in the baby boom generation come into older age, it's going to be a tremendously increasing number of older people.

I think some of you may be wondering how today's hearing came about—and how it fits into the larger picture of my work on the Senate Special Committee on Aging. Well, the answer is easy. We all know that our society is getting progressively older—and that since women outlive men, most of the problems confronting the elderly are primarily the problems of women. In fact, right now about 60 percent of all Americans over the age of 65 are women—and here in Lucas County, it's an even higher 62 percent. But that's not all. Because the fastest growing segment of the elderly population are those over the age of 85—and a full 70 percent of those people are women. And when the real "senior boom" begins about 25 years from now, we're going to see a four-fold increase in the number of people over 85—and a doubling of the number of older women.

Now men obviously get older too—and their problems are every bit as real as those faced by women. But when you consider how dramatically the roles of women have been changing in our society—and how little attention is currently being paid to the long-term implications of those changing roles, then I'm sure you can understand why I chose to focus these hearings on the special problems faced by women.

These hearings—which began last October in Columbus and which will be held in various cities throughout the State of Ohio both this year and next—are designed to address the full range of issues raised by the changing roles of women in American life.

These issues include work and retirement policy, family and community life, and the subject of today's hearing: health care.

Health care is of special importance to women, not only because they live longer than men, but also because women suffer more illnesses and have more days of disability. Such chronic diseases as arthritis, hypertension, diabetes, and osteoporosis are especially prevalent among older women—and because they live longer, their chances of developing multiple illnesses are greatly enhanced.

In fact, chronic diseases are now the leading cause of death and disability in this country—and I suspect they are also a leading cause of fear among older Americans.

Now, I'm confident that someday we'll manage to overcome most chronic diseases the same way we've managed to overcome most communicable diseases. And toward that end, I'm proud to be cosponsoring legislation that would restore much of the money for biomedical research that was cut by the Reagan administration. I disagree with those cuts in research and health care. I think we're heading in the wrong direction. I'm also proud to be supporting increased appropriations for education and research in the fields of geriatrics and gerontology. As many of you know, Ohio was the first State to establish offices of geriatrics in each of our medical schools. Today, we are fortunate that Dr. John McGreevey, director of geriatric medicine here at the Medical College of Ohio, is with us to discuss improvements in health care for the elderly.

But more government spending isn't the only answer. For one thing, we simply can't afford unlimited spending in these days of soaring Federal budget deficits. And we all know that an ounce of prevention is better—and far cheaper—than a pound of cure.

Fortunately, there is a growing body of evidence that health promotion measures can significantly reduce the chance of developing chronic illnesses. In fact, the truly good news is that you're never too old to start: a sensible diet, an end to cigarette smoking, and a good exercise program can help even those over 65 live healthier and happier lives. The bad news, unfortunately, is that the government can't afford to subsidize your purchase of jogging shoes. But taking care of yourself is not a laughing matter—and self-help really is the single most important tool that we have in combating chronic diseases. Three of our witnesses today—Mrs. Ethel Mercer, Ms. Deanne Damschroder of the Arthritis Foundation, and Dr. Eileen Metress of the University of Toldeo—will be addressing this subject—and I hope their words will be heard and heeded by each and every one of us.

But what people can do for themselves is only part of the answer. Other major concerns are preventive care and help in managing long-term chronic diseases. Unfortunately, both of these needs still remain largely outside of the scope of most public and private health insurance programs. Middle-aged women who run the greatest risk of developing chronic illnesses often do not receive the kind of preventive care they need. Some find their access to health care barred because they have lost insurance coverage due to divorce, or the death or retirement of their spouses. The situation for many women in the labor force is not much better. Often those working in the sales or service sectors of our economy are in

jobs that do not come with employer-provided health insurance benefits. This situation is worse for women working only part time.

The gaps in health insurance continue into old age under Medicare, where the costs of "routine" forms of medical care, including annual physicals, are not covered, nor is there long-term care insurance. In the Senate, I have cosponsored legislation to provide more at-home health care benefits under Medicare. In fact, we can do that cheaper in many cases than letting the cases go ahead to where they have to be hospitalized.

Since women tend to be clustered in lower paying, so-called pink collar jobs, they actually suffer a double-whammy. Not only do they lack an adequate amount of health insurance, but lower incomes also generally mean poorer diets, more stress from crowded or substandard housing and a severely limited amount of exercise and leisure time. And to top it all off, retired women workers or homemakers often find themselves with far fewer financial resources than they need to cover a longer lifespan. To address these and other problems relating to access to affordable health and preventive care, we're fortunate to have with us today, Mrs. Billie Sewell Johnson, director of the Area Agency on Aging of Northwestern Ohio, Inc., and Mr. Robert Harootyan of the Congressional Office of Technology Assessment [OTA]. OTA is the scientific research group in Congress that looks into some of the very highly technical problems that we have these days. It was set up some years ago. It does an excellent job in this high tech area.

Finally, this hearing will examine some of the ways in which our lives and health can be enhanced through advances in biomedical research and the development of new therapies and preventive measures. What we're talking about here is not just research into specific diseases, but research into the underlying biological mechanisms of the normal aging process. Through this kind of research, we hope to learn how we can assist body systems weakened by aging, and perhaps even how to explain the differences in life expectancy between the sexes. If we can do that, then maybe the day will soon come when the golden years of men—as well as women—can be extended. We're fortunate to have Dr. Raymond Gifford of the Cleveland Clinic Foundation here today to tell us about the amazing advances that are occurring in these fast changing research areas.

Let me close these opening remarks by recalling something that Dr. Robert Butler said at our first "Women in Our Aging Society" hearing last October in Columbus. Dr. Butler insisted that our Nation must look beyond the annual Federal budget cycle to the demographics of the future, because—as he put it—"we obviously cannot wait * * * until the baby-boomers * * * reach the golden pond before we begin to act." I think Dr. Butler was absolutely right. And while we may not be able to do anything about the fact that we're getting older, there is a great deal we can do to ensure that we're getting better. That's why I'm here today; it's why you're here today; and it's why our distinguished panel of experts have agreed to join us. So let's get on with it. Marcy, I would turn opening remarks over to you.

STATEMENT BY CONGRESSWOMAN MARCY KAPTUR

Congresswoman KAPTUR. Thank you, Senator Glenn. I would, on behalf of all the citizens of the Ninth Congressional District, like to officially welcome you back to the greater Toledo area as well as your wonderful and talented wife, Annie. Thank you so much for joining us today.

We all know that one Member of the U.S. Senate is in space today in orbit, and we're certainly glad that you had your space training before you were elected to the Senate of the United States and that, in fact, today, April 15, you have your feet solidly on the ground here in our community and are interested in addressing the problems of today's elderly and those of us who will be older in the future, Senator.

I also want the people here today to understand that the Senator is the Democratic chair of the Senate Special Committee on Aging, and, therefore, we are especially honored not only that he is an Ohioan but he cares about the issues of the elderly in the Senate of the United States on behalf of millions and millions of Americans.

We in the House share your deep concern about the growing needs of the elderly in America, certainly here in our community as well, and about the complexities of the aging process. Just last week I helped to open the Alzheimer's center down at the Spitzer Building. Of course, the National Institute of Health as well as our own Veterans' Administration are doing lots of research on Alzheimer's disease so that we can perhaps gain a better understanding of that process.

Today's hearing by the chairman of the Senate committee is a perfect complement to the hearing with Claude Pepper that we held in this district last year on the problems of the elderly. Some of us call him Senator Pepper. He is a wonderful man who is the oldest Member of the House, has to have a pacemaker and has more energy than Members half his age. He was here to take questions and to join me in hearings dealing with Social Security and the future of that system. Of course, he, along with Senator Glenn and myself, are going to be fighting very hard the Reagan administration proposals to cut Social Security benefits, and that battle will be frequently in the news for the next several weeks.

In addition to that, last year we had the chairman of the House Committee on Aging, Congressman Ed Roybal of California. We had quite a discussion on the topic of Medicare and the challenges of that system and its financing. We hope that in the next several years we in the Congress will develop some solutions to Medicare's problems. We also had the Veterans' Committee here last September.

We know that by 1990 over half the men over the age of 65 in America will be veterans, and our veteran's health care system is literally cracking at the seams. We have to find some answers there related to what you mentioned in the area of home medical care, preventive health care, and new kinds of arrangements to meet that growing demand. Finally, in October we will be holding a hearing in this community involving some of the health care providers as well as other interested groups on what we can do locally to meet the increasing needs for health care for all age groups.

This is an issue not just for the elderly, but for many families who do not have proper insurance now, for people who are faced with all kinds of very expensive health care needs, and we hope to pull together the hospital administrators and the doctors and lawyers and insurance companies, et cetera for that hearing. That will address what we can do as a community locally at the same time the Federal Government does its job.

I want to say today that it's really significant that both the House and the Senate are represented here because, unless both sides of Congress cooperate to take your views to Washington and can agree on something, nothing really happens. So it's good to know that we have people together here representing both sides of the Congress.

I also want to say how pleased we are to be at the Medical College of Ohio. I can remember a day when this used to be cornfields, and that says something about my age. It might also say something about your age. What a marvelous resource. So many people contributed to this building in our community so that we could have a sophisticated research hospital right here in northwestern Ohio.

For those of you who have come today and have taken time out of your busy schedules, there is nothing more impressive for people in the elective life to see this kind of turnout because that means that there is a need for change and that things happen not only at the local level but at the national level. Your time today will be well spent.

I hope to be able to stay for the whole morning, but I may have to take off because one of my best friends, Joe Kardos, died this weekend. Maybe some of you knew him. He comes from South Toledo. I thought I might want to stop by the funeral home before I left. Thank you so very much, and, Senator, thank you too.

Senator GLENN. Thank you very much. I want to introduce Mr. Martin Janis. Martin has contributed more than 20 years of public service to improve the lives of Ohioans. He has served in the Ohio House of Representatives, and as the director of the Ohio Department of Mental Hygiene and Correction, and then as director of the Ohio Commission on Aging.

Under his leadership the Ohio Commission on Aging gained national prominence for its outstanding and innovating status for senior citizens—and we couldn't go through all the accolades that he deserves. One of the things, development of the Golden Age Villages including Glendale Terrace, is right here in Toledo. It is recognized by our committee in Washington as an outstanding example of congregate living facilities for older persons. He also started the "Golden Buckeye" discount program, and geriatric medicine programs in Ohio's medical colleges.

He is technically "retired" from public service. I put that in quotes because he could certainly fool me. He puts in plenty of hours on behalf of senior citizens across the State and indeed nationally because we've had him in Washington. He's given valuable assistance to me, and, Martin, we appreciate very much your joining us today and are glad to have any remarks you might want to make.

STATEMENT OF MARTIN JANIS, TOLEDO, OH

Mr. JANIS. Never let it be said that when I had the opportunity I didn't take advantage of it. I want to correct Marcy. It was not so long ago that this was a cornfield. I can assure you of that because I was director of the deparment of mental hygiene and corrections when it was a part of that department. So that wasn't so long ago, Marcy.

But I do, of course, take this opportunity of welcoming both Senator Glenn and Marcy on behalf of the northwestern Ohio area as I said to both of them as they came in.

You know, there's one thing about it. I've been to all parts of the State of Ohio, but if you ever want to get a response to any kind of need, come to northwestern Ohio because they do really respond well; you've seen what it is by what you've had this morning, this fine display of interest. This is an anniversary for me because it was 20 years ago this spring that I started Ohio's programs for older persons, and, of course, I'm delighted to be here; and that Senator Glenn saw to it that this important hearing was held here. I appeared a number of times before the Special Committee on Aging in the Senate over the course of these past 20 years, and I also have had the opportunity to appear before the Select Committee on Aging in the House of Representatives.

It is particularly gratifying that the hearing is being held in a spirit of unity, as Marcy had indicated. Certainly this assures something meaningful developing from it.

My problem is that many times during these past 20 years I have participated in and have listened to conferences such as this and then seen nothing come out of them. In the final analysis it's the results that are most important. We know, and this is emphasized by so many being here today, that there is a great interest in this growing phenomenon in our country as well as in the world of the increasing numbers of older persons. It is particularly fitting and significant that this hearing centers on health needs of older persons. As Senator Glenn has indicated, seemingly the administration has taken a position with respect to health care costs that is contrary to facts relating to the condition of older persons.

In conclusion I want to stress a significant fact, and in part it is demonstrated here in this room. I know that this hearing focuses on the health concerns of older women, and, so for that reason, not as many men would have been in attendance. However, no matter what meeting of older persons you attend, there's always a much greater number of women present. Partly this is because of their greater interest, but also because of these figures that I would like to share with you.

In Ohio in 1980, there were 462,247 men who were over 65 years of age. There were 707,000 women who were over 65 years of age. You can see that big contrast indicating that women do have a longer life than men. A further analysis provides even more interesting data. Of the number of men who were over 65 years of age, 65 percent were in the age group between 65 and 75; 28 percent were between 75 and 85, and 7 percent were over 85. Now, with women, 57 percent are in the age range between 65 and 75; 32 percent in the age range between 75 and 85, and 11 percent in the age

range over 85. A careful review of this data provides meaningful information. For instance, over the age of 75, women outnumber the men almost two to one. Certainly these figures make you realize the importance of this hearing.

The last point I would like to make should be of some consolation to the men. We're completely outnumbered in all the age groups after 65, except when we hit 110. In Ohio, according to the census of 1980, there were 125 persons who were over 110, and of that number 61 were men and 64 were women. So, men, let's make sure that we reach 110. Thank you very much.

Senator GLENN. I don't know whether I feel better or worse. Thank you, Martin. Thank you very much. Just a couple of housekeeping details—I don't want to let time get away from us here. Before we have our first witness, out in the lobby you'll see some of these yellow sheets. We don't consider the people who give testimony the only experts in the room. We'd like to have your comments. Many of you have ideas. If you had been asked to be a witness up here today, what would you like to have said? Pick up a yellow sheet. We will make sure too that you get publications sent to you if you put your address on the bottom. If you want to fill out a sheet, put your name and address on the bottom so that we can send you some of the publications on the Senate Special Committee on Aging if you like. At the hearing last October, we had about 200 written comments from the audience. Some of them were very good, very valuable, and we included them in our hearing record, as a matter of fact. So we appreciate you filling out the yellow sheets.

There are a number of publications on the table. I just want to point out that there are several Government agencies and other organizations that furnished some of the publications for our hearing. You're welcome to pick up any of those that you like out there.

With those brief announcements here, we'd like to get on with our witnesses.

Our first witness this morning is Mrs. Billie Sewell Johnson, executive director of the Area Office on Aging here in Toledo. The area agency administers aging programs and services for a 10-county area in northwestern Ohio. Mrs. Johnson has been a resident of Toledo since 1968 and has served as a leader and advocate for the aging community since 1977.

She serves as vice president of the board of governors for the National Church Residences, a national nonprofit housing firm for the elderly. Mrs. Johnson is founder of two nonprofit subsidiary housing corporations established for the elderly and handicapped in Defiance and north Baltimore. We welcome your testimony, Mrs. Johnson.

STATEMENT OF MRS. BILLIE SEWELL JOHNSON, TOLEDO, OH, DIRECTOR, AREA AGENCY ON AGING

Mrs. JOHNSON. I am honored to participate in this hearing of the U.S. Senate Special Committee on Aging. I wish to thank Senator John Glenn for his continuous leadership and efforts on behalf of older Americans throughout the United States and especially older Ohioans. I would also like to thank Congresswoman Kaptur and

Mr. Martin Janis for their continued support of my organization and the senior citizens of Toledo-Lucas County as well as those persons living in northwestern Ohio. I've been asked to focus my comments this morning on the problems older women have in securing access to affordable health care and to comment a little bit about the older American programs and services that are provided here in northwestern Ohio.

Today's topic, "Prospects for Better Health Care for Older Women" is extremely appropriate and timely. Especially in light of the fact that for the next several months, women's groups and organizations throughout the United States will be conducting similar meetings to assess the overall status of all women, particularly focusing on the issues which affect the lifestyles of older women and other special populations and groups of women. One of the most important of those issues is health care.

These meetings are being held in preparation of the 1985 United Nations World Conference for the Decade for Women which will be held in Nairobi, Kenya this July. The World Conference is the culmination of the United Nation's "Decade for Women" begun in 1976. I'm delighted to report this morning that while I'll not be an official governmental delegate to this conference, I do plan to attend in the nongovernmental forums and study groups. I'm delighted to say that my primary mission will be to study and examine further the issues of older women, including those who are economically disadvantaged throughout the world.

During the past Decade for Women, we, as a nation, have developed a better understanding of the complex problems facing women. Further, we have finally agreed that merely identifying specific problems has not been enough; it is necessary to recognize the context in which they occur.

The problems older women face today in securing access to affordable and appropriate health care is indeed an issue that we as a society are working to resolve. For years, the American consumer has been calling for radical changes in public policies affecting the access to, and the cost of, health care. The older woman is especially affected by these problems, principally due to the fact that she represents the majority of the fastest growing population group in America, and, second, because she lives longer than any other segment of the population.

While we will probably continue to make incremental progress in efforts aimed at modifying the present health care system, including the implementation of new cost containment policies and so forth, some immediate and expeditious strategies to expand health prevention and health education opportunities are desperately needed. Such strategies should include the expansion of early detection, screening and treatment programs, exercise and physical activity programs, nutrition education and increased information on health information, education and training programs. I'd like to pause here and say that I'm not only talking about programs that are periodically performed, but programs that are instituted in communities and neighborhoods on a regular basis. The absence of such initiatives in every community could result in dire and catastrophic health problems for current and future generations of older women.

The problems of health care among the elderly are more chronic than acute, and, as has been earlier mentioned, thus we must begin to look at chronic illness in an entirely different way than we have in the past. First, this calls for radical changes in the way we deliver health care services; where and how we dispense such services; and how we train medical professionals to treat the increasing population of older Americans, especially older women. Second, there is a significant interrelationship between the access to services and the economic status of older women. Who can deny that an adequate income, while not a panacea or cure-all, would substantially ease health care problems just based on opening up more options and choices alone? There are pervasive and underlying socioeconomic factors at the root of many of these health care problems that we experience.

Historically, the family assumed a great deal of responsibility for those who lived into their older years. Conversely, today's older population has matured into a society that stresses individual achievement, personal autonomy, and the self-determination to maintain independent lifestyles during their later years. However, with advancing age comes a series of social, physical, and psychological losses and impairments which eventually lead to an increased degree of dependency on others. Due to the prospects of greater longevity and the likelihood of living alone in their later years, older women are particularly affected as they advance in age. Supportive services for the elderly become more critical than ever. Many older women suffer at this stage of their life because many communities just don't have enough resources to finance transportation services, escort services, outreach and other services that will help older women gain better access to health services. While such problems are seen in a new and magnified light, given our longevity of life with the present economy and political conditions, the retrenchment of these vital community services will continue to prevent older women and the elderly from living healthier and more productive lives in their older years.

The Area Office on Aging of Northwestern Ohio, Inc., along with many other local public, private and voluntary organizations, are working jointly to eliminate conditions which inhibit this area's older citizens from full participation in, and access to, health care institutions and health services. I just want to mention a few of the local initiatives aimed at these problems: First, the early screening program of the county health department and visiting nurses program is an outstanding example of preventive health care and health promotion programs. Second, the medical transportation services operated by the department of human services which helps older people gain access and provides transportation for them to the various health care institutions. Third, the home-delivered meals and nutrition education services that are administered and operated by my own office. Fourth, various outreach, escort and friendly visiting and information and referral services which are operated by a variety of agencies such as community action agencies, the department of human services and many local church-supported and sponsored organizations. Finally, one project we are especially proud of, the planned Lucas County Senior Citizens housing complex which will be located near this facility, the Medical

College of Ohio, and, in fact, was the former home of the Medical College of Ohio's more commonly known as the Old East Campus of the Medical College. This project will provide the "well elderly" with not only housing but with health and supportive services as well as recreational programs, a barber shop, beauty shop, a pharmacy, library and other amenities that are necessary to help older people remain well and productive and a part of their community. It is the product of one of the only few public/private partnerships in the country, and it's happening right here in Toledo with the outstanding support of the Lucas County commissioners.

The Seagate Development Corp. is a subsidiary of Toledo Trust and my own local office, the area office on aging.

In addition to these outstanding programs that I've mentioned which are in part or in whole supported by the area office on aging financially, a number of other community agencies which receive no community or Federal support at all are doing useful things for the elderly in Toledo and northwestern Ohio.

I just want to mention a couple of them. One is the outstanding mobile health watch van that is sponsored by Toledo—the St. Vincent's Hospital and Toledo 13 TV. This is an outstanding program. The mobile health watch van goes around to various senior centers, nutrition sites and other places where people congregate.

Other programs that are sponsored by the Medical College of Ohio whereby they allow their student nurses and their physician trainees to go into the various senior centers and the programs to provide treament programs, preventive programs is an example of many of the local initiatives that we think are very outstanding and provide good access to health care for older women. In addition, the myriad of services provided by the community mental health agency, the Lutheran social services, Catholic charities, Jewish family center and the Toledo Health and Retiree Center are four other examples of outstanding initiatives that this local community has come together to support on behalf of its elderly citizens.

And, finally, many of the local hospitals are doing very new and creative things, among them, the Medical College of Ohio's Geriatric Center; who are building housing, who actually deliver services out of the service center as well as in-center services.

In an effort to coordinate these various programs and services, the area office on aging and the department of human services, along with several other agencies, have initiated and coordinated a long-term community-based care program. This program is named CORE Project, Coordination of Resources to the Elderly. It is designed to coordinate and keep track of services received by elderly individuals in Lucas County. During the first and second years of operations, the program will engage in community and residential components, respectively. The system has a two-prong focus: client case work and tracking of long-term care clients.

I am pleased to say that the director, Miss Ann Scoldarnold, is here today, and they have done an outstanding job of coordination of resources and putting together a package that will enhance and secure better access to older women in the future. The overall intent of designing the CORE project was to insure that various services are provided but through a "one-stop shopping" approach,

and the project will be located on the campus where we're building the comprehensive complex.

In closing, the Older Americans Act programs which are administered through the area office on aging which I direct are primarily aimed toward preventive approaches with the specific objective of reducing and avoiding premature institutionalization of older women as well as older men.

While we have been unable to expand our services due to the various cutbacks which the Senator alluded to earlier and because of the local economic condition, we have been extremely successful in maintaining vital services by pooling resources with other organizations and tapping other private as well as public resources. Our senior centers and nutrition sites represent the focal point of our service delivery system for older citizens in our community. Increasingly, other service providers, both public and private, are calling on the staffs of these centers for assistance in reaching the retiree community. The centers will continue to grow and take on new and expanded and vital roles in the community in the future that they serve.

Most of us look to longer life and older life as a positive and rewarding gift. However, the continuing challenges posed by greater longevity and by technological, social and economic changes in our society demand that we work hand in hand with the retiree community and health care providers as well as consumers to structure better service delivery systems for tomorrow's older generation of which women are the greater part. Thank you.

Senator GLENN. Thank you very much, Mrs. Johnson. We will have the testimony from all the witnesses before we have questions here. I do have an announcement though. They tell me that the Wood Room which is just to the left as you leave the auditorium, has chairs, air-conditioning and sound in case anyone who is standing back here is interested in going in there. Also, some of the witnesses' statements that have been submitted in advance, are a little bit lengthy for our hearing here this morning. I would invite anyone who wishes to summarize your statements, your full-length statement. If you could summarize so that we have plenty of time for questions, we would really appreciate it very much.

Our next witness is Dr. Eileen Metress. Dr. Metress is an associate professor of health education at the University of Toledo, where she has taken an active role in teaching about nutrition, prevention and control of disease and health problems, particularly centering on those of the aging population. Dr. Metress is really an outstanding expert in the area of nutrition and health and was named the Outstanding Teacher of 1980 and 1981 at the University of Toledo. She has also played an important role in the Toledo community as a volunteer, consultant and instructor at the community development center, and Project Counter Stroke where she taught volunteers how to rehabilitate stroke victims.

It has only been within the last two decades that we have focused on the vital importance of diet and nutrition in preventing disease and staying healthy. Today, Dr. Metress will address the most pressing nutrition issues facing women and discuss the implications of the link between what we eat, how we live and how healthy we are. Dr. Metress.

STATEMENT OF EILEEN METRESS, PH.D., TOLEDO, OH, ASSOCIATE PROFESSOR OF HEALTH EDUCATION, UNIVERSITY OF TOLEDO

Dr. METRESS. I would like to thank the committee and Senator Glenn for the opportunity to participate as a witness in this hearing. I will be presenting testimony on the effects of cigarette smoking, diet and exercise on the incidence of osteoporosis, heart disease and cancer.

A striking feature of these three conditions and for chronic disease in general is the multiplicity of factors which appear to be related to their development. With regard to lifestyle factors, the significance of cigarette smoking, diet and exercise must be underscored with regard to the possible role that they play in the development of the three conditions with which we are presently concerned.

Approximately 80—60 to 80 percent of the 15 to 20 million cases of osteoporosis which occur in the United States occur in women. This condition, wherein bone loss is accelerated to a symptomatic level resulting in fractures, is the major cause of fractures in postmenopausal women and in older members of our population in general.

Now, the fractures can range with regard to their degree of severity. They may be responsible for back pain, for limited mobility, but they may also be very serious, such as with a hip fracture where we have a 20-percent mortality rate 6 months after a fracture of this nature has been incurred. So it is paramount that we concentrate on preventive aspects with regard to a condition of this nature. We do know that smoking, diet and exercise play an important role with regard to this condition.

Cigarette smoking may be an important predictor of risk because we do have evidence that smoking accelerates the onset of menopause. The onset of menopause decreases the estrogen levels which allows for a greater withdrawal of calcium in the bone with osteoporosis. So the cessation of smoking is important, and, even more so, never beginning in the first place with regard to its positive effects in bone development.

Also, diet is extremely important, and this is important throughout a woman's life cycle. The inclusion of food such as green leafy vegetables, low-fat milk and milk products play a very important role with regard to the maintenance of bone and calcium stored therein.

However, we do have a great disparity in this country with regard to how much calcium is recommended for our daily intake and what we are actually ingesting. Our recommended dairy allowance for calcium is 800 milligrams per day, and just recently we had a National Institute of Health panel recommend by virtue of medical consensus that females in this country take in between 1,000 and 1,500 milligrams of calcium per day. What we do know is that the median for women in America is approximately 500 milligrams. So we have a big difference between what's recommended and what's reality.

Now, with respect to the situation, we do find that there are various factors associated with American lifestyle and American diet

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which may allow for this disparity and recommended intake and what we actually do ingest. For one thing, women seem to be particularly concerned because of social factors with weight and may want to exclude milk and milk products because of their concern with weight.

Likewise, we find that certain other practices that women in our society engage in accelerate the bone loss such as cigarette smoking which was already mentioned and, likewise, a very high protein diet heavy in meat. Some studies have indicated that the high amount of soft drinks consumed in the United States likewise contributes to the loss of this nutrient. We also find that coffee drinking, caffeine intake, has been associated with this as well. So we have many factors in our life associated with withdrawal of calcium.

As I indicated, the skeletal quality throughout a woman's life is extremely important, and we do find from studies that the integrity of bones at puberty is extremely important because it dictates to the large extent what the quality of bone is going to be later on in an individual's life. Likewise, at that particular time, the eating habits established, good or bad, are probably going to be carried on and may have a direct effect then on the development of osteoporosis.

While we do not have definitive evidence with regard to exercise as a prevention of this disorder, we know that a lack of physical activity does hasten bone loss. Regular exercise that works muscles against gravity serves to maintain and strengthen bones. Muscular activity has been demonstrated to increase bone mass in elderly as well as young persons. Regular physical activity which involves weight-bearing exercise should be encouraged for women throughout their lifetime as a possible preventive technique. This is largely things like walking, jogging, bike riding, whether stationary or real.

Now, these three lifestyle factors are also significant with regard to coronary heart disease. We see cigarette smoking as a major risk factor for coronary heart disease for women as well as men. Smokers have twice the risk of heart attack as compared with nonsmokers. The association between cigarette smoking and coronary heart disease is particularly apparent in young women.

Cigarette smoking is the most prevalent risk factor for sudden death resulting from a heart attack. The American Heart Association reports that smokers experience 2 to 4 times the risk of sudden death, that is, death within an hour of a heart attack, compared with nonsmokers. We have a study that indicates 62 percent of women dying have been designated heavy smokers, defined as smoking more than 20 cigarettes per day.

For women who have recently taken up the habit as well as for those who have smoked for many years, there is good evidence that can result in a greatly increased risk for coronary heart disease and for sudden death associated with a heart attack.

Diet, likewise, has been importantly associated with heart disease, although we have dietary factors. The American Heart Association has recommended what's called a "prudent diet" wherein caloric intake is derived from fats is 30 to 35 percent. Practically applied, the recommendation of this particular group suggests that

Americans would increase their intake of fruits, vegetables, legumes and whole grains, a reduced intake of high fat red meat, pork and organ meat and the use of unsaturated and polysaturated vegetable oils and margarine for table spreads, salad dressings, cooking and food preparation. We have evidence indicating that vegetarians in the United States have been shown to have below average blood lipid levels and a lower incidence of coronary heart disease.

A program of regular physical activity should be encouraged as a part of one's heart disease prevention program. The type of exercise which may protect us against the condition or improve the chance of survival following a heart attack includes that requiring movement of one's body weight over a distance such as walking, stair climbing, running, cycling and swimming. These types of activities are recommended for 15 to 30 minutes every other day. The functional capacity of the cardiovascular system may be increased and the myocardial oxygen demand decreased for any given level of physical activity with regular exercise of this nature.

Likewise, we find two of these risk factors being very importantly associated with the development of cancer. In fact, diseases related to cigarette smoking may be referred to as America's most preventable health problem. With regard to cancer, as with osteoporosis and heart disease, cigarette smoking is a most significant risk factor. The first signs of significant concern for smoking-related disease are now beginning to appear, and we can expect to witness an increased incidence and prevalence as women who began smoking since the Second World War continue to smoke and grow older. It is documented that risk for tobacco-related cancers increases with the number, duration and type of cigarettes smoked in both men and women.

Lung cancer with cigarette smoking is now becoming the leading cause of death in women as opposed to breast cancer with respect to cancer in general as we have just been informed by the American Cancer Society. We also find that the relative percentage of adult female smokers has declined over the past 15 years which is certainly a piece of positive information, although the decline in smoking for women has been less rapid than that for males. The prevalence of smoking grows among teenage females 10 percent during the last decade. However, we have documented a downward trend in teenage smoking for males and females since the late 1970's and fortunately that trend is still declining.

The diet is likewise implicated with the development of cancer. The U.S. diet, which is high in fat, calories, and refined carbohydrates, while low in complex carbohydrates and fiber, may be related to the development of certain types of cancer.

International differences in fat intake have been related to colonic and breast cancer. We do have some very good studies that indicate that the Seventh Day Adventists who have a low fat diet demonstrate lower colonic cancer mortality. Also we have studies showing that in immigrant populations, people who would move from various areas, breast cancer and colon cancer are low in incidence coming to the United States, and they develop the U.S. diet which is very high in fat and within one or two generations manifest the

same death rate in cancer, so the American diet is responsible for the changes in morbidity and mortality.

Some evidence suggests that diet maybe co-related with at least one-third of all cancers in men. The breast, colon, and stomach are especially susceptible sites.

Dietary recommendations have been promoted by the American Institute for Cancer Research, and these recommendations were based on the work of the National Academy of Science, Committee on Diet, Nutrition and Cancer. They include some very strong similarities with regard to what we saw with the Heart Association and their prudent diet with regard to their prevention. It is basically reducing the intake of dietary fat, saturated fat, and increasing consumption of fruits, vegetables, and whole-grain cereals, minimizing intake of salt-cured, smoked, or charcoal-broiled foods and drinking alcoholic beverages in moderation, including foods in the diet which are rich in vitamins and, likewise, avoiding obesity.

We do have studies coming from the American Cancer Society that women who are deemed to be 40 percent or more overweight have a 55 percent greater risk of developing cancer. So attention to lifestyle factors have shown to be of paramount importance.

It is difficult to predict how healthy future cohorts of elderly women will be. However, many lifestyle changes bear the potential to exert tremendous impact on the quality of life and the maintenance of vigor for tomorrow's elderly women. Thank you.

[The prepared statement of Ms. Metress follows:]

PREPARED STATEMENT OF EILEEN METRESS, PH.D.

I would like to thank the Committee and Sen. Glenn for the opportunity to participate as a witness at this hearing concerning "Prospects for Better Health for Older Women." I will be presenting testimony on the impact of cigarette smoking, diet and exercise on the incidence of osteoporosis, heart disease and cancer. A striking feature of these three conditions and chronic disease, in general, is the multiplicity of factors which appear to be related to their development. Individual lifestyle factors represent only one category of so-called risk factors. Within that categorical designation, the importance of cigarette smoking, dietary patterns and physical exercise must be underscored as they relate to the three conditions with which we are presently concerned.

OSTEOPOROSIS

The majority of the 15 to 20 million cases of osteoporosis in the United States occur in women. This condition, wherein bone loss is accelerated to a symptomatic level, is the major cause of bone fractures in postmenopausal women and older persons in general. Women are more prone to the disease because they have less bone mass to begin with and because changes which take place during menopause lower calcium and estrogen levels thereby accelerating loss of bone tissue.

White women and those with small body frames are at an increased risk of osteoporosis. Although these elements cannot be moderated there are lifestyle factors including cigarette smoking, diet and exercise which may affect the progression of bone loss.

Cigarette smoking may be a predictor of risk due to the fact that evidence suggests it can accelerate onset of menopause.[1] Early menopause is an important predictor for the development of osteoporosis. Changes in estrogen levels make the bone, wherein 99 per cent of the body's calcium is stored, more sensitive to the effects of parathyroid hormone which increases calcium withdrawal from the skeleton. Estrogen therapy is often used to slow bone loss after menopause to prevent

[1] Daniell, H. 1976. Osteoporosis of the slender smoker—vertebral compression fractures and loss of metacarpal cortex in relation to postmenopausal cigarette smoking and lack of obesity. Arch. Intern. Med. 136:298.

disability related to skeletal fractures. Such therapy has been the subject of controversy and should be used with close medical supervision. In that, one, my field of study is basically concerned with lifestyle practices and primary prevention and, two, we have a physician as a member of this panel, I will refrain from remarking on the use of estrogen-replacement therapy. Such concerns are more appropriately left to Dr. McGreevy.

Physicians may also prescribe calcium-rich diets in an attempt to slow down bone loss in the osteoporotic patient. However, dietary practices are of utmost importance throughout a woman's life cycle as a preventive measure. The established RDA for calcium has been set at 800 mg. per day. Twenty-five percent of American women consume less than 300 mg. per day with the median calcium intake for American females approximating 500 mg.

A National Institutes of Health panel submitted by medical consensus that American women ingest between 1,000 and 1,500 mg. of calcium per day to prevent fractures or to reduce the incidence of such during the postmenopausal period. Elevated levels are recommended to compensate for the rate of bone loss in women which may also be compounded by practices such as high protein intake ("excessive" meat eating), soft drink consumption, coffee drinking and cigarette smoking.[2,3]

Women of all ages must be conscious about meeting calcium requirements. The integrity of one's skeletal mass at puberty and young adulthood can influence the quality of bone at old age. Likewise, eating habits established when one is younger may influence later quality of bone and the eating habits carried into the later years. Osteoporotic change can commence as early as age 35, resulting in a person of 65 having bones that are more porous and more easily broken. Fractures are costly in terms of human suffering and expenditures for medical care. Every year approximately 190,000 elderly suffer hip fractures. Twenty percent of these persons die within six months of a hip fracture.[4]

Green leafy vegetables, low-fat milk and milk products represent excellent sources of calcium. Concerns about overweight among women in our society and the probable frequent practice of accompanying a meal with a glass of diet soda or a cup of coffee rather than a glass of milk should be given attention. Perhaps, reducing meat consumption (while maintaining protein requirements), soft-drink intake and coffee drinking while refraining from cigarette smoking could serve to influence recommended calcium intake. Vitamin D levels are also important because vitamin D aids in the absorption of calcium from food.

The role of physical activity in preventing bone loss has yet to be clearly defined. While definitive evidence does not exist to prove that exercise will prevent the disorder, we know that a lack of physical activity hastens bone loss. Regular exercise that works muscles against gravity serves to maintain and strengthen bones. Muscular activity has been demonstrated to increase bone mass in elderly as well as young persons.[5,6,7,8]

Regular physical activity which involves weight-bearing exercise should be encouraged for women throughout their lifetime as a possible preventive technique.

CORONARY HEART DISEASE

Cigarette smoking is a major risk factor for coronary heart disease (CHD) for women as well as men. Smokers have twice the risk of heart attack compared with non-smokers. Severity of risk is related to the number of cigarettes smoked per day. The association between cigarette smoking and CHD is particularly apparent in young women, especially those not expressing a history of other risk factors.[9] Its added importance in the presence of other risk factors should be obvious.

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[2] Margen, S. et al. 1974. Studies in calcium metabolism. I. The calciuretic effect of dietary protein. Am. J. Clin. Nutr. 27:584.

[3] Raisz, L. 1982. Osteoporosis. J. Amer. Geriatrics Soc. 30: 127–138.

[4] Jensen, J. and E. Tondevold. 1979. Mortality after hip fractures. Acta Orthop Scand 50:161.

[5] Aloia, J. et al. 1978. Prevention of involutional bone loss by exercise. Ann. Intern. Med. 89: 356–358.

[6] Aloia, J. et al. 1978. Skeletal mass and body composition in marathon runners. Metabolism 27:1793.

[7] Huddleston, A. et al. 1980. Bone mass in lifetime tennis athletes. JAMA 244:1107.

[8] Smith, E. et al. 1981. Physical activity and calcium modalities for bone mineral increase in aged women. Med. Sci. Sports Exerc. 13:60–64.

[9] Rosenberg, L. et al. 1981. Cigarette smoking in relation to the risk of myocardial infarction in young women: modifying influence of age and predisposing factors. Int. J. Epidemiology 9:57–63.

Cigarette smoking is the most prevalent risk factor for sudden death resulting from a heart attack. Again it is significant as an independent factor, but it becomes especially significant when other risk factors are present. The American Heart Association reports that smokers experience 2 to 4 times the risk of sudden death (within an hour) after a heart attack compared with non-smokers. Sixty-two percent of women dying suddenly from CHD have been designated heavy smokers defined as smoking more than 20 cigarettes per day.[10]

For those women who have recently taken up the habit as well as for those who have smoked for many years, cessation of smoking can reduce the risk of heart disease. Ten years after quitting, those who smoked a pack a day or less, demonstrate a risk of dying from CHD which is almost the same as if they had never smoked.[11] One study suggests that those who stop smoking before the onset of a heart attack experience no excess risk when compared with life-long abstainers.[12]

Diet has also been importantly associated with CHD. Although controversial, studies relate the regular intake of large amounts of saturated fat and cholesterol as contributory to elevated blood lipid levels.[13] The American Heart Association has recommended a "prudent diet" wherein 30 to 35 per cent of our total caloric intake is derived from fats. It is suggested that less than one-third of these calories be obtained from saturated fats while up to 10 per cent come from polyunsaturated fats and oils. In order to make up for calories lost via fat restriction, complex carbohydrate consumption should be increased to allow for 50 per cent of energy intake. Practically applied, these recommendations call for an increased intake of fruits, vegetables, legumes and whole grains, a reduced intake of high fat red meat, pork and organ meat and the use of unsaturated and polyunsaturated vegetable oils and margarine for table spreads, salad dressings, cooking and food preparation. It is noted that vegetarians in the U.S. have been shown to have below average blood lipid levels and a lower incidence of CHD.[14,15]

A program of regular physical activity should be encouraged as a part of one's CHD prevention program. The type of exercise which may protect against the condition or improve the chance of survival following a heart attack includes that requiring movement of one's body weight over a distance such as walking, stair climbing, running, cycling and swimming. Such activities should be engaged in 15 to 30 minutes every other day.

The functional capacity of the cardiovascular system may be increased and the myocardial oxygen demand decreased for any given level of physical activity with regular exercise of this nature.

CANCER

Diseases related to cigarette smoking may be referred to as America's most preventable health problems. With regard to cancer, as with osteoporosis and CHD, we see cigarette smoking being a significant risk factor. Various cancers are associated with cigarette smoking. Women, too, are subject to the damaging effects of smoke. The first signs of significant concern for smoking-related disease among women are now beginning to appear. The delay in onset of disease and death significantly related to cigarette smoking in women, as compared to men, is related to the more recent onset of widespread smoking among females. Widespread smoking habits in women date to World War II rather than World War I as with men. We can expect to witness an increased incidence and prevalence of smoking related disease as women who began smoking since that time period and who continue to smoke grow older. Risk for tobacco-related cancers increases with the number, duration and type of cigarettes smoked in both men and women.[16,17]

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[10] Spain, D., Siegel, H. and V. Bradess. 1973. Women smokers and sudden death: the relationship of cigarette smoking to coronary heart disease. JAMA 224:1005–1007.

[11] American Heart Association. 1985. Heart Facts—1985. Dallas, Texas: National Center.

[12] Willett, W. 1981. Cigarette smoking and non-fatal myocardial infarction in women. Amer. J. Epidemiology 113:575–582.

[13] Keys, A. 1975. Coronary heart disease: the global picture. Atherosclerosis 22:149.

[14] Taylor, C. et al. 1976. Serum Cholesterol levels of Seventh-Day Adventists. Paroi Aterielle/Arterial Wall 3:175.

[15] Sacks, F. et al. 1975. Plasma lipids and lipoproteins in vegetarians and controls. N. Engl. J. Med. 292:1148.

[16] Wynder, E., and S. Stellman. 1977. Comparative epidemiology of tobacco-related cancers. Cancer Research 37:4608–4622.

[17] Wynder, E., and S. Stellman. 1979. Impact of long-term filter cigarette usage on lung cancer and larynx cancer risk: a case control study. JNCI 62:470–471.

Lung cancer, causally associated with cigarette smoking is now the leading cause of cancer deaths in men and women. The American Cancer Society indicates that an estimated 38,600 women will die of lung cancer in 1985, compared with 38,400 who will succumb to breast cancer.[18]

Unfortunately, the decline in risk for lung cancer with smoking cessation does not decrease as dramatically as that for heart attack and sudden death. For those who have smoked 20 years, it takes about three years for an alteration in the risk for lung cancer to be demonstrated. Slowly, the reduced risk will approach that of a non-smoker 10 to 15 years after smoking has ceased.[19]

The relative percentage of adult female smokers has declined over the past 15 years, although the decline has been less rapid than that for males.[20] The prevalence of smoking rose among teenage females 10 per cent during the last decade.[21]

Epidemiologic studies do not establish cause-and-effect but they raise significant questions about the relationship between dietary factors and cancer. The U.S. Diet, which is high in fat, calories and refined carbohydrates, while low in complex carbohydrates and fiber, may be related to the development of certain types of cancer.

While an exhaustive review of such studies is beyond the scope of this presentation, mention should be made of some information pertaining to colon and breast cancer. International differences in fat intake have been related to colonic cancer. In contrast to Japan and Chile, where fat intake tends to be low and colon cancer less prevalent, countries such as the U.S., where fat consumption is high, reflect significant mortality rates for colon cancer. Mortality rates have been related to dietary fat and oil consumption.[22] Such relationships have also been reported for breast cancer. Investigations of Seventh-Day Adventists, who consume little animal products demonstrate lower colonic cancer mortality. Low intake of dietary fiber has also been implicated on epidemiologic grounds.

Immigrant populations also provide us with some provocative material. Breast cancer and colon cancer is higher in the U.S. than in Poland or Japan. Yet, Polish and Japanese immigrants, after a short time in the U.S. demonstrate cancer rates identical to those of Americans. It is suggested that adoption of high calorie, high fat American diet is responsible for the changes in morbidity and mortality.[23]

Current knowledge of the importance and role of diet in the etiology of cancer is largely based on epidemiologic data.[24] Some epidemiologic evidence suggests that diet may be correlated with more than half of the cancers in women and at least one-third of all cancers in men.[25,26] The breast, colon and stomach are especially susceptible sites. Though these cancers often manifest themselves in later life, their pathogenesis may have begun much earlier.

Dietary recommendations promoted by the American Institute for Cancer Research, based on work of the National Academy of Science—Committee on Diet, Nutrition, and Cancer include:[27]

1. Reducing the intake of dietary fat in order that saturated and unsaturated fats account for 30 per cent of one's total caloric intake.
2. Increasing consumption of fruits, vegetables and whole grain cereals.
3. Minimizing intake of salt-cured, smoked or charcoal-broiled foods.
4. Drinking alcoholic beverages in moderation.

It is difficult to predict how healthy future cohorts of elderly women will be. However, many lifestyle changes bear the potential to exert tremendous impact on the quality of life and the maintenance of vigor for tomorrow's elderly women.

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[18] American Cancer Society. 1985. Cancer Facts and Figures—1985. National Center.

[19] Doll, R. and R. Peto. 1976. Mortality in relation to smoking: 20 years observations on male British doctors. Brit. Med. J. 2:1525–1536.

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[23] Staszewski, J. and W. Haenszel. 1965. Cancer mortality among the Polish-born in the United States. J. Nat'l. Cancer Inst. 35:291.

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[25] Gori, G. 1981. The cancer and other connections—if any. Nutrition Today 16:14–22.

[26] Wynder, E. and G. Gori. 1977. Contribution of the environment to cancer incidence. J. Nat'l. Cancer Inst. 58:825–833.

[27] Rivers, J. and K. Collins. 1984. *Planning Meals that Lower Cancer Risk: A Reference Guide.* Washington, D.C.: American Institute for Cancer Research.

Senator GLENN. Thank you very much, Eileen. That was excellent, a lot of good facts there. You've got to stop smoking cigars—that's for sure.

I would like to welcome our next witness, Mrs. Ethel Mercer. Mrs. Mercer started practicing Yoga 21 years ago, at the age of 57.

If my arithmetic is correct, that makes you 78. I'm going home and take up Yoga, so I can look like you do at the age of 78 because you look so great. Yoga is probably the form of exercise that the average person across this country knows the least about. It doesn't mean you have to go to India and sit on a mountain top with a guru some place in order to do it properly. It is a series of very special exercises. Today, Ethel not only continues Yoga exercises but teaches Yoga to others, both young and old. Mrs. Mercer teaches classes at the Epworth Methodist Church, Unity Church and Toledo University.

Different forms of physical activity have different positive results for a variety of people—some of us run, some ski, many women do aerobics. Some of Mrs. Mercer's Yoga students, including women in their fifties and sixties, sent me testimonials [1] before this hearing telling me about the good effects her Yoga class has had on their lives. Health care experts say that Yoga helps to stretch and strengthen the body to reduce stress. Let me just say that hearing the personal stories of Mrs. Mercer's students was very beneficial to my understanding of the merits of Yoga exercises. I've never had the opportunity to do it. I'm looking forward to hearing your comments.

STATEMENT OF ETHEL MERCER, TOLEDO, OH

Mrs. MERCER. I'm not a bit nervous, and I don't have any notes to read. So I'm just going to try to explain about Yoga. I wouldn't have been here if one of my students, Betty Geiser, hadn't written an article that ended up in the newspaper which ended up in Jane's lap. So I'll do the best I can.

Yoga is a unity of body and mind. A lot of us can't jog and jump up and down and all those other things that are wonderful, we have to slow down the pace a little. Yoga is also stretching. Yoga takes care of you physically and mentally and emotionally. One of the most important things is Yoga breathing. The Yoga breathing is what you do all night long, and we do that in Yoga with each Asana's exercise, each movement.

The breathing helps you stretch more, it relaxes you. You get rid of your tension, and we work for deep relaxation in Pranayama, which is the science of breathing. It helps the circulation and helps the blood carry oxygen throughout your body.

In our press meeting, Senator Glenn brought up the fact about prevention of all the things that happen to you, and the one I have right now was never diagnosed. I have osteoporosis. I take 1,500 grams of calcium, and there are other things that you can do. You have to go to a doctor, but that's what I'm doing, one of the things, plus exercise. Our bodies were made to exercise. So we have to keep on the exercise route.

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[1] See p. 28 for testimonials.

Now, if you will straighten your spine. Just sit up straight. It will make you feel better. Drop your shoulders and just relax your face. OK. Now exhale and push your chin down to your chest. This will be good for you. Drop your face, your chin and soften your tongue. Soften all around your eyes and inhale and bring the head straight up and exhale and put the head back. Just drop the head back and put the jaw up to the ceiling. I'll only take a minute. Bring your head up to center. Keep your shoulders down and back. Keep your body relaxed. Exhale, put your head to your right slowly. Inhale, head up, exhale to your left, and inhale, head up.

Did it relax you a little? I hope it did. The heart is a muscle, and exercise and nutrition, as you heard before here today, is what we should all be doing. So I hope I've helped get rid of your tensions and relaxed you just a little. Thank you and Peace.

Senator GLENN. Thank you, Ethel. Thank you very much.

As I mentioned in my opening remarks, Ohio was the first State to provide funding for each of its medical schools to establish geriatric programs, and I am supporting Federal legislation to increase funding for research, education, and training in geriatrics and gerontology.

I am very pleased to introduce our next witness, Dr. John McGreevey, who is Director of the Office of Geriatric Medicine and an assistant professor of general internal medicine here at the Medical College of Ohio. Dr. McGreevey is a relatively young doctor who takes a strong interest in what growing older means. He performed his residency in internal medicine at MCO, followed by a fellowship in geriatric medicine.

I look forward, as I'm sure you do, to hearing from Dr. McGreevey on the importance of providing education and training for health professsionals about aging and the health care needs of the elderly. Dr. McGreevey.

STATEMENT OF JOHN F. MC GREEVEY, JR., M.D., TOLEDO, OH, DIRECTOR, OFFICE OF GERIATRICS, MEDICAL COLLEGE OF OHIO

Dr. MCGREEVEY. I want to thank you, Senator Glenn, for providing me with the opportunity to give testimony today, and if any of you in the audience ever have a problem getting your nerve before you talk, it's very nice having somebody like Mrs. Mercer take you through an exercise like that. It calms you down, and I'm probably the luckiest of the participants today to be following her.

It has been a real advantage in Ohio having had the passage of the House bill. This will be—I think it's been 8 years since the House bill was originally passed without which I know I wouldn't have been here. Dr. Ruppert is the president here at MCO and was vice-chancellor of the Ohio Board of Regents and was in large part responsible for the fact that there are offices of geriatrics extended to each of the medical colleges. Originally, I think he talked about one center office, and it was partly due to his efforts that I'm here; and whatever things we've managed to accomplish, we thank the State of Ohio for providing us the backup to do it.

We've talked about some of the health care issues and health care problems that the elderly face today, and I think there are some recurrent themes that have come through this. I'd like to

focus on what I see as three basic issues as a medical educator that we often have to face.

The first one is that there are a number of chronic problems faced by elderly women that require long-term coordinated approaches. I think that already has been stated and stated very well. Alzheimer's disease and other dementias, incontinence, osteoporosis, osteoarthritis and some that we don't like to talk about are similar problems. These are disorders that oftentimes we don't have a cure for, and we really need to work on that. But I think the two points that I'd like to make most is that their major impact is not in the fact that they shorten lives—although they sometimes do that—their major impact is what they do to a person's lifestyle and their day-to-day activities carried on by people for years can devastate their lives.

Alzheimer's disease provides the best example of that. You start out with a diagnosis that you're told is irreversible. All the information that we have about Alzheimer's is that it's untreatable. Having faced that emotional problem, the patient and their family goes through a long course in which there are permanent losses. The basic physical needs need to be met more and more intensively, and after it's all over, after the physical and emotional strain have occurred, then financial ruin follows close on the heels of that because of the needs these people have.

That leads to my second major point. Many of the health care needs aren't to be put in the hospital or have a bottle of pills or a diagnostic study but more in the care that these people need on a day-to-day existence and the support that the people that take care of these people need to continue to take care of them. The group of people I'm talking about most here is families. As Representative Kaptur did, I had the opportunity to participate in the opening of the office of Alzheimer's disease support group locally here. This has got to be one of the most courageous group of people in the world. They do something that they get very little in return for. I'm talking about the families that take care of these people from day-to-day. You've all had experience dealing with raising children and some of the frustrations. There are times when it can be that bad and worse for the Alzheimer's patients and their families. The families need to go and face this gradual decline. They give love and attention that often may be rewarded by reactions ranging from no reaction to violence. The emotional strain and the emotional support that these people need is impressive.

A second issue that we as educators need to address is the response to illness and the response to treatment of illness. Many of the things that we do for or to elderly people are not necessarily good for them. A lot of the chronic problems we are talking about tend to deteriorate and worsen when we focus on an acute illness and, say, bring somebody into the hospital. Bed rest itself is hazardous to the health of anybody, especially to the health of elderly people. Most of the problems we're talking about this morning get worse when a person's put to bed rest. We need to, I think, develop new styles of managing and approaching the elderly patient.

The third major issue I'd like to point out today kind of, again, follows logically from the first two, and this is that there needs to be an interlocking relationship that occurs between physical, psy-

chological, social and environmental factors in the health and well-being of the elderly patients. Dealing with any one of these factors in an isolated fashion is an incomplete approach to health care. They all must be dealt with.

What things do we need to teach and know? Obviously, we need to understand better the normal aging process so that we can be aware of its impact on health.

So that we don't assume something that's been brought up already today, we must foster an approach to patient care that emphasizes health promotion and maintenance instead of just episodic, acute care. I think there are certain parts of our health care and reimbursement system that have grown out of proportion to the others. I think we've done a very good job in coming along and developing ways of treating acute illness and life-threatening illness and that sort of thing but some of these other problems that are a little less tangible and a little less technical, we've got to cope with and to manage.

A heavy part of health promotion and health maintenance lies in the example that Mrs. Mercer set forth for you. The great involvement that people need to take in their own health care and their own health maintenance. There's nothing I could have done probably if I were Mrs. Mercer's physician over the last 20 years that would have the impact on her health than the things that she has taught herself to do and done for herself over the last 20 years. That's very important.

The final thing, the other thing that we need to look at, is the fact that illness does put a person at risk for decline. Dr. Metress mentioned the high mortality rate from hip fractures. That comes from all the things that happen to a person when they break their hip, and they're put into a hospital bed, and they're immobilized. There are a wide range of problems. There are very few problems that don't get worse in the elderly when they're immobilized. We need to deal with that when we're providing care for ill patients. This is a very complicated kind of care that I'm talking about, and I think one of the things I would want to point out is that a lot of these issues are going to be issues that physicians need to address. A lot of these issues are going to be issues that other health care professionals need to address also.

At various times, the expertise of physicians, nurses, social service people, phsyical and occupational therapy, nutritional services, rehabilitation services and all kinds of other services need to come into play, and we need to kind of learn to put our egos on the back burner and work as team members and keep the patients as a very vital and important member of that team.

Finally, I think the last and most important concept we must teach is the importance of treating each person as an individual. For me as a physician or for medical students and residents, it's really easy to stereotype. We see more of the ill, debilitated segment of the elderly population, and it becomes too easy to believe that this is the norm. We have to teach and learn otherwise and remember that even when our answers may not yet be sufficient that all of our elderly patients have the right to be listened to and evaluated carefully. Thank you.

Senator GLENN. Dr. McGreevey, can you tell me a little bit more about the Alzheimer's Disease Support Center that recently opened?

Dr. MCGREEVEY. Most of the work in that office is done by the Alzheimer's Disease Support Group, which we at MCO have supported. Our support is a small fraction of the time and energy put in by family members involved with taking care of and dealing with Alzheimer's patients.

Senator GLENN. That's mainly a support group and not a research group?

Dr. MCGREEVEY. That's more for support and education of families. The major, local research is being carried out by Dr. Dokas of the neuroscience department.

Senator GLENN. That's one of the more insidious things. I don't know how much you've been involved with it. I got interested in this issue some time ago, and the research has done a lot of things just in the last few years. Because I think we've just realized what Alzheimer's disease is and are growing closer to being able to diagnosis it now. Diagnosis of Alzheimer's is one area where we do not know a lot about, and I hope we can get additional research money. It's such an insidious thing. I know we don't want to spend our time talking about Alzheimer's, but it's a particularly difficult one to deal with. Mrs. Johnson, I see you nodding your head. Does your group get involved in that?

Mrs. JOHNSON. No. We don't. We simply give support to the Alzheimer's care givers and victims. We have several support groups in the city of Toledo.

Senator GLENN. On letting medical students get involved with problems of the elderly and getting into gerontology—do you have a problem getting students started in this area and wanting to make that a lifework? Because it's something we're going to have to be thinking about getting more people into.

Dr. MCGREEVEY. I think there are a couple of problems associated with that. I think that it's traditionally viewed as a fairly depressing and discouraging field to work in, frankly, and I think often times there are other fields of medicine that are seen as being probably more exciting and even more heroic. Even if you look at the models for physicians that we see on television, you see people that are dealing with life-threatening and acute situations and, you know, performing near miracles.

I think one of the problems that we face is we've not taken steps to combat that image, so that chronic care in general is a little hard to recruit people for and pay for. What I've seen as probably my biggest job or the most important task that I have as an educator is not so much to turn out so many numbers of geriatricians or gerontologists but to try to insure that family practitioners, internists, surgeons, psychiatrists and other practitioners have an understanding for the problems of the elderly because I think in the future and for a long time to come these are the people that are the primary care physicians for these kind of patients, and these are the people that need to address the needs of the average geriatric patient. I think that resource centers and consultative services need to be provided for really complex and special problems, but I think everybody who's going to take care of adults is going to have

to have some skills and some knowledge about geriatrics whether they're a geriatrician or internist or family practitioner or whatever. We do try to make sure that everybody going through our curriculum gets this background.

Senator GLENN. You have required courses for every medical student going through?

Dr. MCGREEVEY. Yes. We have a required course in the second year of medical school, and we also have a required residency curriculum. This is in the first year of our program. There are additional courses for interested students and residents.

Senator GLENN. Mrs. Johnson, one thing that hasn't really come up in the testimony today is alcohol and substance abuse, drug abuse. Pill abuse causes problems for some older women in particular, and according to some of the studies that we've had some information from, usually those most vulnerable to this difficulty are those that live alone. They may be depressed by low income. They are also sometimes low from being widowed. Are they able to enter treatment programs, or do you try to help these people; or what can be done in this particular situation?

Mrs. JOHNSON. Senator, we do try to help individuals, and, in fact, one of the very exciting programs that my office has initiated in conjunction with the substance abuse program here locally is a preventive program that will provide prescription drug education to the older citizens throughout Lucas County. In fact, we have hired a retired pharmacist who goes around and provides medical education and information as well as counseling to older citizens at the various senior citizen centers, the nutrition sites, and I'm extremely pleased that through his efforts he is going to coordinate with the local pharmaceutical association to further expand efforts and reach more older citizens throughout Lucas County. So we do realize this is a very important problem. We are extremely concerned and have taken local initiatives to begin to deal with that problem. That's just one approach. There are many other community efforts that are initiated by other community health centers as well.

Senator GLENN. Dr. Metress, you talked about osteoporosis. That's a concern I think of almost everyone, including Mrs. Mercer on your left. Mrs. Mercer, how did you know that you had osteoporosis? Did a doctor diagnosis this?

Mrs. MERCER. I went out to San Francisco last summer, and there were doctors from all over the world; and they came to study with Iyengar from Poona, India. He is the most famous yoga teacher. There were some American doctors there, and I was used as an experiment with everything that could be wrong with a person my age. I guess I was the oldest one there. I was with 700 people doing the Asana's, exercises, and they had different tests; and they told me I had decalcification of the bones. So that's the same thing I guess. As soon as I got back here, I went to a doctor, and it was verified.

Senator GLENN. Osteoporosis has been sort of a little special interest for me, I guess. Because on some of the early space flights—and I won't try to get off into a discussion of space—they found that, not on a flight that was as short as mine, which was three orbits, but that on a longer period of time, when they made some of

the measurements that they found a 12-percent reduction in bone calcium just being in space. Apparently your body is a wonderfully sensitive organ in that it senses that it no longer needs the same skeletal space once it realizes that you don't need the weight. It just starts sucking it off the bones. In that case, they could reverse this trend or modify it by vigorous exercises several times a day on a regular basis. That, at least, would indicate that regular exercise is a wonderful antidote to osteoporosis. Eileen, do you find that, or do you have other scientific evidence to back that up?

Dr. METTRESS. As you've indicated, some very important work was done with astronauts and the weightlessness of flying as it relates to an osteoporotic state. Likewise, we see people who are not necessarily older but who may have become incapacitated. They may have developed "disuse" osteoporosis from a lack of activity. Indeed, we do find that the regular exercise that Senator Glenn spoke of helps to improve people who have incurred something of this nature. It does help with elderly people as well as with others who have developed some bone loss.

Senator GLENN. One of the most common difficulties with the elderly is that you fall and break a leg. How many times have we heard that somebody's in the hospital with a broken hip? I don't know how many baskets of flowers I've sent to hospitals for elderly individuals or candy or whatever it was we sent. But somebody fell and broke a hip; and that's so common with osteoporosis, and that's lack of calcium in the bone. If we could just exercise, we could reverse this trend. I hope everybody goes home and goes on a good exercise program. How about nutrition in that area? How important is that?

Dr. METTRESS. Nutrition is extremely important. The World Health Organization has recommended a dietary intake of 400 milligrams for calcium, and, as we heard earlier, in the United States the present recommended allowance is 800; and it's been suggested that in women it be between 1,000 and 1,500.

Senator GLENN. Can it be recalcified?

Dr. METTRESS. Once we've lost a significant amount, we cannot replace it. We can help slow down the process. The disparity in these figures is important because it illustrates the significance of exercise, cigarette smoking, caffeine intake, et cetera on the quality of bone and calcium stores. In other words, increased calcium intake may be recommended in part to compensate for lifestyle factors that influence calcium stores.

Senator GLENN. We've been at the studies long enough to know that the elderly should start exercise programs, and it may have a benefit as osteoporosis goes; but are we dealing with joint problems, ligaments?

Dr. METTRESS. That's a very important point. We're at the genesis of research and have to have caution for practically applying these recommendations. Exercise is important, but it should be within limits. Also, it may need to be under a physician's direction. For instance, we talk about bike riding as a very good form of exercise with respect to osteoporosis, but this is not something that we should automatically recommend for all older adults. Hitting potholes in the streets and cracks and bumps could literally cause a spontaneous fracture in the already calcium-compromised spine.

Exercise doesn't have to be rigorous in order to be helpful. It need not put an additional, undue strain on joints.

Senator GLENN. I've been reading some of the different books on exercise and so on. Most doctors or sports medicine people also indicate that just plain flat getting out and walking and walking swiftly and fast as you can walk comfortably to get the heartbeat going—is about as good an exercise as anybody can possibly have. So with all due respect to Mrs. Mercer, Yoga is great—but if you don't want to go into Yoga, if you don't want to ride a bike, everybody can walk. It's pretty good exercise, Dr. McGreevey, you're the internist. Do you agree with that?

Dr. MCGREEVEY. Yes. I think the surprising thing about the studies that have been done on osteoporosis and muscle atrophy is that it doesn't take a whole lot of really vigorous exercise to help combat these problems. Things like walking, or stationary bikes to get around some of the weather problems, can be very helpful. You don't have to go work out with Nautilus or put yourself through pain to do the amount of exercise necessary to maintain muscle tone. Even a mild exercise program like walking, as long as it's done consistently, is good, and I would just underscore what the other panelists have said about exercise and nutrition, that they are a preventive factor to osteoporosis. I think prevention is what we're trying to stress.

Mr. JANIS. I don't have any questions, but I would like to make a comment. It will be brief because I note that we're right on schedule.

First of all, I think that you should note that the most important thing to bear in mind with respect to all that we have been hearing this morning is do things in moderation; nothing in excess. That's the secret to long life.

The other thing, is that the entire emphasis has been on preventive measures. You have no idea what a job I've had the last 20 years to get senior citizens to recognize the importance of exercise, the importance of preventive measures. As you know, Senator, Ohio is the only State in the Nation that mandated that our medical schools have offices in geriatric medicine. This program has been in effect for 7 years and results are being achieved.

As Dr. McGreevey has indicated, progress is being made in this important area both in the medical schools and with practicing physicians.

In addition, Senator, the development of senior citizen centers represents the best mechanism for the dissemination of the kind of information that has been so well presented at this hearing.

My last comment would be that if this hearing is going to be successful—and certainly the panelists have more than done their part to assure this, then it's up to those present to do their part, and that is to go back to their communities and get involved and let older persons know that the secret of the "quality of life" as you grow older is to adopt those preventive measures that have been so well presented here today.

Senator GLENN. Thank you. Mrs. Mercer, one other question. Does your husband also practice Yoga? I understand he's 78 also, and I want to see him get that 110 where he will catch up with you.

Mrs. MERCER. I have to tell you the truth. The first Sunday that I went out the door to go to learn about Yoga, he said, "Where are you going, out with all those other kooks?" But I went anyway. When he has seen how I try to relax myself—he has done my typing. He has helped me. You wouldn't believe it. The other night he came home, and he said, "I wish you would help me with some exercises. My knees are so bad I can hardly walk." So I got him on the floor with his feet up against the wall and worked on his knees. Yoga is getting rid of tension and doing deep relaxation.

Senator GLENN. Where did you get interested in Yoga?

Mrs. MERCER. I was a physical education teacher, and then I got married; and it was quite different than teaching physical education.

Senator GLENN. I'm not going to touch that one with a 10-foot pole.

Mrs. MERCER. So I was depressed.

Senator GLENN. I tell you seriously that was the other question I was thinking about asking you, and you already touched on it in a lighter vein here; but in your case, as I understand it, you began practicing as you were suffering from breathing difficulties?

Mrs. MERCER. Yes, I did deep breathing exercises. Good breathing opens the thoraxic area. It strengthens you if it is done correctly. You do it during the day to get rid of tension, and to calm the nerves. I'm sold on Yoga because of what it has done for my life.

[The following testimonials were subsequently submitted for the record by students practicing Yoga with Ethel Mercer:]

I have been doing yoga for 9 years. Yoga breathing relieves tension and stress for me. Yoga has helped my circulation, posture, and raised my energy level. Yoga is a tonic for both the body and the mind. I am 65 years old.

DOROTHY M. BEARSS,
Toledo, Ohio.

Hatha yoga has truly saved my body and my mind. When I started yoga in 1976, I was unable to bend or move or even laugh. Today, I am 62 and an ACTIVE "old lady" due to my Hatha yoga classes under the guiding inspiration and patience of my teacher, Ethel Mercer.

EDITH FRANKLIN,
Toledo, Ohio.

Yoga has helped me to stay flexible and in good health. At 54 I am in top physical condition with high energy and endurance. I have endured a great deal of stress. I cling to the yoga breathing and the exercises, as that is the one thing that keeps me calm and in good health.

I feel that yoga has helped me in more ways that I can measure and I'll always stay with it.

LAURIE HOSTETLER,
Grand Rapids, Ohio.

When I was a businesswoman, part of my job included filing. After sitting on a typing chair for the number of required hours, the filing in the lower drawers became rather tiresome. I began with the stretching discipline of Yoga lessons. Now that I am enjoying retirement, I like to continue the discipline of Yoga for my continued good health.

FRANCES E. OTEY,
Toledo, Ohio.

Yoga has done for me what baseball has done for the Tigers—put me on top!

I feel great, look great, and am usually in a good disposition after a session. Yoga has helped me relax and meditate. Ethel is an inspiration to do better each time I come to a Yoga class.

KEN KIEFER,
Toledo, Ohio.

Senator GLENN. I know we're beginning to get behind time. We have to get on to the next panel here so that we don't get too far behind. If there are just a couple of questions from the audience, I would like to provide some time. If you have any questions, I'd be glad to take them.

MEMBER OF THE AUDIENCE. Calcium, is that equivalent—I was told to stop drinking milk. In fact, I have read in other situations where people over 40 should not drink milk. I cheat on that because I love milk.

Dr. METRESS. The concern with dairy products is the fat content. So it's recommended that low-fat products be ingested. Low-fat milk, skim milk, low-fat cheeses, rather than the harder high fat cheeses are recommended. The recommendations that are made with regard to curbing dairy products are really made in that vein. If we consume the low-fat products, there may be less risk of certain other chronic diseases related to a high-fat diet.

Senator GLENN. Are calcium pills just as absorbable as milk?

Dr. METRESS. That's a good question. We don't have a lot of research that has been done on calcium supplementation. Although supplementation is recommended, we do need studies. A new study indicates that unlike supplements milk does not suppress bone renewal. The calcium supplement studied was found to suppress the natural bone remodeling rate by 25 to 30 percent.

Senator GLENN. Dr. McGreevey, do you want to comment on that?

Dr. MCGREEVEY. There's only one comment I'd like to add to that, and that is that in the last year or two that there has been evidence suggesting that a substantial number of people with osteoporosis may also be suffering from a vitamin D deficiency, in some cases up to a quarter or a third. Whatever calcium supplementation you take should contain vitamin D in it.

Dr. METRESS. With respect to that—I'm glad he brought it up. Vitamin D is extremely important along with calcium supplementation. Calcium absorption requires the assistance of vitamin D. A deficiency of this nutrient will decrease calcium absorption. However, it is poesbile to suffer from vitamin D toxicity when too much of the substance is ingested. Consumers of supplements should guard against too little vitamin D as well as too much. With regard to dairy products mentioned earlier, milk is commercially fortified with vitamin D and, therefore, represents not only an excellent source of calcium but of the vitamin necessary for its absorption.

MEMBER OF THE AUDIENCE. Like Franklin Roosevelt, he did a lot of exercise in water. I would see that followod through in the senior citizens to make their varicose veins work better, and it would probably help the bone structure.

Senator GLENN. About that comment about Franklin Roosevelt swimming, is swimming recommended?

Dr. METRESS. Swimming is an excellent form of exercise with regard to the cardiovascular system. However, it doesn't seem to do much with regard to osteoporosis.

Mrs. JOHNSON. I think later in the afternoon there is a panelist who will talk about the aquatic program initiated here in Lucas County with the various YMCA's. So there is a program locally, and I'm sure you will get some testimony on that.

Senator GLENN. I think that will be from Deanne Damschroder. Any more questions?

MEMBER OF THE AUDIENCE. My folks taught me when I was young that I should stand up and give my chair to a woman. Another reason that I may be living longer would be that I'm standing up now. My question, Senator Glenn, is to the doctor. Tomorrow I'm going to Globe Scope which is a national assembly of concerned people. Senators and others will be there talking about environmental issues and the price that you have to pay to have clean air, clean water and clean living. My question, Doctor, is to what extent are you finding in—dealing with toxic materials affecting people's health today, and in terms of future concerns, isn't that one of the major concerns about what's happening to our air, water and our lifestyle in terms of toxins that are being more prevalent in our society?

Senator GLENN. Let me state the question so that everyone knows what we're responding to. The question is on environmental concerns and how important they are and how much toxic materials coming into our environment are affecting us now and will affect the elderly in particular. Is that a fair statement?

MEMBER OF THE AUDIENCE. Yes.

Dr. MCGREEVEY. I'm afraid I don't have a lot of specific information on that other than some of the toxins that have already been mentioned this morning such as cigarettes, alcohol and some of those things. Obviously this is a question that deserves further study because this is something that has an accumulative impact over several years, and you would expect it with increasing age to be more of a problem; but I really don't have real specific information on specific toxins and what impact they have. I don't know if any of the others do.

Senator GLENN. Any other comments? Do you know any more Eileen?

Dr. METRESS. Today we have stressed the role of individual responsibility for disease prevention. Although individual behaviors such as regular physical exercise, smoking cessation and diet are extremely important, we must not ignore exposure to environmental substances that may be beyond an individual's control. Individual behavior and societal-action must go hand in hand. Regarding cancer, we do have statements coming from major groups in the United States which indicate that 80 to 90 percent of all cancers may be environmentally induced. The cumulative effects of that exposure may be very important with regard to the appearance of cancer in older adults. Exposure to carcinogens and toxic substances must be considered with respect to their possible effect on changes or diseases that are manifested with age. We need more study on intrinsic age changes as opposed to those which may be environmentally induced.

Senator GLENN. The questions from the audience have been better than the ones on the platform. I'm sorry that we won't be able to go ahead with more questions. We are already 10 minutes behind. I think if we shorten up our break period, we'll try to take up again at 25 of the hour.

[A brief recess was taken.]

Senator GLENN. Thank you very much. I think we have an excellent second panel here also. I thought that first one was very interesting. I appreciated their efforts very, very much. The second part will focus on technology and aging, and we have some excellent people here. We have Bob Harootyan, Ray W. Gifford of the Cleveland Clinic and Deanne Damschroder of the Northwest Ohio Chapter of the Arthritis Foundation. We'll hear from Robert Harootyan first.

Bob Harootyan is a senior analyst at the Office of Technology Assessment (OTA). It's the research agency of the Congress, and he specializes in policy-relevant research in the epidemiology and demography of aging. Mr. Harootyan recently directed the OTA study of "Technology and Aging in America" and is currently directing OTA's assessment of "Life-Sustaining Technologies and the Elderly." That's really the forefront today. We see organ transplants going on daily now. The artificial heart transplant has been the fifth one in 6 weeks. He's looking into life-sustaining technology in the elderly.

Mr. Harootyan holds degrees in biology, sociology, and demography from Clark University, Purdue University, and Cornell University. His 13 years in the field of aging and gerontology have included positions as deputy director of the San Francisco Development Fund and its program of home equity conversion for the elderly, associate director for research at the Western Gerontological Society and special research analyst for the California Department of Aging.

Since I was one of the Senators who initiated the OTA's "Technology and Aging" study on which Mr. Harootyan served as project director, I have a particular interest in hearing his testimony today. Mr. Harootyan, we appreciate very much your coming and seeing us from Washington. We look forward to your testimony. It's a pleasure to have you.

STATEMENT OF ROBERT A. HAROOTYAN, WASHINGTON, DC, OFFICE OF TECHNOLOGY ASSESSMENT

Mr. HAROOTYAN. Thank you, Senator Glenn, for the opportunity to participate in this important hearing. I preface my remarks today to state that the opinions I express are my own and not necessarily those of the Office of Technology Assessment, its Board or the advisory panels that assist us at OTA. I'll try to summarize part of my prepared remarks to avoid repeating the information that was provided by the first panel.

I would like to emphasize a few aspects of the demographics of aging that were not mentioned earlier. Today there are already 5.5 million more women in the Nation than there are men aged 65 and older. That large difference will continue. Currently, females have a life expectancy at birth that is 7½ years greater than males, and,

at age 65, that advantage is 4 years. This trend will undoubtedly continue into the foreseeable future, although the most recent data indicate that the rates of change in life expectancy between the sexes are becoming more similar.

I have a special interest in the demography of aging. I agree with Senator Glenn's earlier remarks about the need for Congress to look beyond the next budget crisis or the next 3 years or perhaps the next election, and that we must start thinking about the long-term impacts of these demographic changes in the United States. I foresee in the next few decades a new era in life expectancy improvement of the elderly. Most of the improvement in life expectancy at birth that we can anticipate has already occurred. We will not be able to reduce significantly more the death rates of the newly born and infants. During the last 50 years there have been great strides in reducing infant mortality, but the United States is not ranked the best in the world. Rather, the United States is 15th in the world. But because the amount of additional reduction that can occur is limited, the impact on life expectancy at birth will also be limited. However, at the other end of the age spectrum there is an unknown degree of improvement that can occur. It is feasible that many more years can be added to life expectancy at age 65, 75, and 85, depending on what kind of technologies are developed in the future.

It should also be noted that more than one-half of the total gain in life expectancy at age 65 since 1950 has occurred in the last 12 years.

It appears that we are entering a new stage where life expectancy for those aged 65 is dramatically improving. The applications of biomedical research and technological changes will help to push the longevity of older people even higher. Although demography can't predict what the changes will be, well-informed projections can be developed on the basis of past trends. But we have generally underestimated the advances in life expectancy and the proportions of people who will live into old age. That's why I see this as a great challenge. As Senator Glenn noted, the baby boom generation will be reaching the older ages during the same period that these notable advances in longevity are likely to occur.

Because of technological advances during this century in health, sanitation and hygiene, there has been a great reduction in the prevalence and severity of infectious diseases. With the introduction in the 1940's of antibiotics and new medical technology since the 1950's and 1960's, we've been able to add considerably to the length of life and, hopefully, to the quality of life in old age. But given current information about health and the incidence and prevalence of chronic and acute diseases, these added years have not necessarily meant added quality of life. Currently, and for the next decade or two, it appears that the number of added years in life expectancy will not be equaled one-on-one by added years of good health. That is why the earlier presentations were so significant. The message that each of us is trying to put forth today is clear. There is a great deal that both the individual and society can do to improve the odds of having good health during the added number of years that are prospectively in store for all of us.

In terms of applying medical knowledge and health care knowledge, we've done very well in dealing with acute episodes of major killer diseases. During the last 15 years, reductions in death rates among the elderly have been due in part to the ability to promote survival after heart attacks and strokes.

These life-saving advancements, while so beneficial, have helped create new dilemmas concerning the prevalence of chronic diseases among the elderly. These conditions increase dramatically in the very old—those over age 85. Osteoarthritis, for instance, affects one-half of the elderly population, based on self-reports. And if x-rays were taken of all elderly people, you'd find that almost everyone over 60 has some clinical evidence of osteoarthritic conditions. The very old, 70 percent of whom are women, have much higher prevalence of chronic conditions and functional impairments. In fact, those 85 and older are six times more likely than persons aged 65 to 74 to suffer from chronic conditions that impair their ability to do a daily task, whether it be preparing a meal, walking up a flight of stairs, eating, bathing, dressing, or other types of basic daily activities.

A few numbers will put this situation in national perspective. In 1983, of the 26 million non-institutionalized elderly who lived in the community, 2.3 million needed help in some type of activity in their daily lives. And 2.7 million older persons required assistance in what are called instrumental activities, which include tasks outside the home, primarily getting to the grocery store, trips to the doctor, managing finances, a variety of things that go beyond basic personal tasks.

Aside from these types of dependencies, national survey data indicate that about 34 percent of older persons have limitations in a major activity, be it work, major household chores or some other function. So the message is clear. The longer you live, the much higher your risk of functional impairment from chronic conditions. Are we doing enough biomedical research and development of community support services for older people to help reduce the negative effects of these trends? I think not.

At OTA, we talk about technology in many ways. We talk about low technology and high technology. We talk about soft and hard technologies. Soft technology alludes to areas such as biomedical research and improved organization of long-term care services. In this sense, technology is not just hardware. It includes the process by which products are developed. For instance, increased knowledge about the mobility problems confronting people who are disabled or paralyzed has been applied to improvements in wheelchairs. So we've tried to understand and to bridge the gap between the end product and the process by which we learn what kinds of products and services are needed.

My prepared statement focuses on three types, or groups, of technologies. One type is therapeutic or prosthetic technology. These include devices and services that take the place of a particular function that an individual has lost. The wheelchair is probably the best example.

The second group includes telecommunications and electronic technologies. These are being developed very rapidly, and their applications can assist us in our daily lives. A current example is pro-

grammed cable television systems that are increasingly common in many communities.

The third type is life enhancement, assistive and convenience technologies. This group relates most closely to our discussion in this second session. These are technologies that help, in one way or another, individuals remain independent. They add to or enhance the individual's ability to undertake certain tasks in the community. Besides hard technologies, however, support services in the community are a fundamental need. An organized system for providing some kinds of technologies and most types of supportive services must be available at the community level.

The problem of functional impairments and need for assistance are far more likely to occur among older women than older men. One reason is that the need for some kind of formal support services or assistance is directly related to the lack of individuals at hand to help you. Older women comprise four-fifths of all single-person older households. Although women have the advantage of living much longer than men, they also have the risks of widowhood that accompany the advantage in longevity. About 69 percent of all women over age 75 are widowed. Among men over 75, only about 22 percent are widowed. Thus, the risks of impairment and need for outside assistance are much greater for older women, and that's one of the reasons I think this hearing focuses on these issues.

Technologies in the home can help ameliorate some of these risk factors to promote independence. Life enhancement technologies, as I've grouped them, can enhance the independence of older women and reduce the kinds of limitations attendant to living alone. Assistive technologies can include very simple and inexpensive devices, and I believe you'll see some of them in another presentation. They include items such as grip enhancers and jar openers, which ameliorate the limitations and reduced ability to grip things as people age.

There are also more complex devices. An electrically-driven chair lift is an example for people whose mobility is impaired and who live in two-story homes. Chair lifts are very expensive and not readily affordable by most elderly people on limited incomes. But such devices would reduce the need for personal assistance for these elderly persons. It is estimated that 2.6 million older people have problems using stairways. So this kind of technological assistance can have some impact in promoting independence and safety for some elderly persons. As the private sector becomes more aware of these needs and the market for such devices, more products will be developed and advertised to be adapted and used in the home.

Safety is a very important issue that has received only limited attention with regard to using technologies in the home. An important example of the safety issue is the physical vulnerability of older people from accidents. The elderly are far more at risk of severe and debilitating effects from different kinds of accidents, especially falls in the home. It is not generally known that elderly persons account for about 70 percent of all deaths from falls. That kind of statistic should attract our attention and concern, because

many of those deaths can be prevented or the negative effects of those falls can be notably reduced.

The most important thing, as Senator Glenn said earlier, is an ounce of prevention. A lot of simple technologies can be employed to promote safety at home. Grab bars are one of the best and least expensive additions for safety in bathrooms. Non-skid stair treads are especially good for going up stairs where a lot of slips occur at the "nose" of the stair tread—the front part of the step—resulting in a forward fall. A brighter color at the edge of the stair tread makes a great difference in ability to see the edge of the stair tread when descending the stairs. The greatest problem for older people who have limited vision and limited mobility is overstepping a stair tread on descent. That's the main reason for falls when descending a staircase.

These are adaptations that people can apply in their home without high cost. They help elderly persons prevent some of those problems that can lead to death or severe impairment. In fact, of those older persons who do survive a fall, 15 percent never regain full mobility or ambulation.

When an accident does occur, especially when somebody lives alone, an additional problem is that help is not immediately available. Telecommunications, the electronic technologies I discussed earlier, can help in that regard. A variety of alarm systems are now available that can be helpful. The best known is a system called "Lifeline," but a number of others are coming on the market for varying costs. The cost usually involves a monthly fee that will allow you to install and attach the device to your phone. That's the most common type. It's an alarm system that, when activated, automatically dials a central monitoring station, often located in a hospital or senior center. The monitoring staff will in turn try to call the individual from whom that signal is being received. If there's no answer, they immediately call the emergency services. Efficient monitoring of such accidents in the home or the onset of a heart attack is fundamental, because it helps assure that assistance is promptly received.

There are a variety of other electronic technologies that can be applied for home safety. The alarm system I've described is but one of perhaps 20 that are available. Other safety problems include appliances that are left on that create fire hazards. Among the elderly, fire safety is the second most important aspect of reducing the risk of death from accidents. Irons that are left on, for example, are a major cause of fires in the home. Now available are newly developed irons that will automatically shut off if left on in one position for a predetermined time period. Also, some will automatically shut off if tipped over. Anything that reduces risk of fire is an advantage in reducing risk of death from accidents among older persons.

More complex technologies can be applied to create the "smart house," or the "computerized house," in which some housing developers will retrofit the electrical system of the house with sensing devices that monitor major appliances and the heating and air-conditioning systems to assure they are working properly. This can be programmed and is not terribly expensive in new houses.

Some other new technologies include in-home video programs and telecommunications through cable television. It is important to note that studies and demonstrations show that older people are just as likely and willing as younger people to use personal computers and interactive telecommunication systems. As with other age groups, their degree of interest and willingness to use these technologies is related to the products' usefulness in their daily lives.

A variety of telecommunication programs are available for use in the home to promote health and to instruct people on self-care. Perhaps most important, some types of diagnostics and monitoring of physiological vital signs can be done through new types of telecommunications. Such systems would eliminate at least some trips to doctors' offices, reduce the need for transportation assistance, and promote continual monitoring of vital signs and guidance from physicians. The general availability of these technologies need not be very far away. It's a matter of time before they can be adopted for much wider use in homes and hopefully for far less expense than might otherwise be the case today.

One issue, however, is the question about regulating the kinds of information that might be available to people through telecommunications. Inaccurate, misinformed, or inappropriate self-care programs could be a hazard to health of some older people. Thus, there may be a role for Congress and the Committee on Aging in promoting appropriate materials and overseeing consumer protection in instruction about self-care and health promotion for the elderly.

Finally, another issue that was alluded to earlier is the use of drugs by the elderly. The use of many medications at once is called polypharmacy. The elderly consume over 30 percent of prescribed drugs in the Nation. That's more than twice their proportion in the total population. Unfortunately, older persons often receive prescribed drugs from more than one physician, but each physician is unaware of those other prescriptions. This situation sometimes leads to negative effects from drug interactions. There are new technologies that can reduce the risk of such situations. Some pharmacies today have computerized record systems.

If they can monitor all the medications being taken by an individual, warnings about possible side effects from interactions of two or more drugs could be noted. The computerized systems themselves could someday provide some of these warnings.

Another long-term idea is to use a magnetic strip on a type of credit card, or perhaps on future Social Security cards, that contains an individual's pharmaceutical record on a microchip. This system would require certain protections for confidentiality. Using the right equipment, the doctor as well as the pharmacist could see in an instant all of the medications that have been prescribed or even the patient's full medical record. It would be a far better way of monitoring the drug intake of patients, especially because of the many people likely to be involved in the health care of the elderly.

Finally, in the area of biotechnology, we foresee some major improvements in the ability to understand and, perhaps, to some day reduce the rate of aging of cells. Numerous theories exist today about how cells age. One of the most notable ones indicates that human cells do not replicate themselves more than a certain

number of times thus indicating a biological limit. Another theory suggests that cellular changes affect the body's immune system and its ability to fight disease as age increases. There is, however, some indication that the rate of aging of cells can change. If the intrinsic rate of cellular aging can be reduced, it could have profound impacts on health and longevity. That's why I started my discussion with the idea that we are entering a new era of life expectancy increase among the elderly; and some of those changes may occur within the lifetime of today's older generation. Thank you very much.

Senator GLENN. That's fascinating to me the rate at which we're learning some of these things. We may want to get back into that during our question period here a little later.

[The prepared statement of Mr. Harootyan follows:]

PREPARED STATEMENT OF ROBERT A. HAROOTYAN

TECHNOLOGY, AGING, AND OLDER WOMEN

Thank you, Senator Glenn, for the opportunity to participate in this important hearing. I am Robert Harootyan, Analyst and Project Director in the Biological Applications Program of the Office of Technology Assessment (OTA), a research agency of the U.S. Congress. I join the other members of today's panel in presenting information about the role of technology in enhancing the life of older Americans, particularly older women. I recently directed the OTA study, Technology and Aging in America, and am currently directing its assessment of Life-Sustaining Technologies and the Elderly. As you know, both of these investigations were undertaken at the request of the Senate Special Committee on Aging as well as the House Select Committee on Aging. My remarks today will present information from both of these assessments. Please note that the opinions I express are not necessarily those of the OTA staff, the advisory panels for these studies, or members of the Technology Assessment Board.

As was so well discussed at your recent hearing on "Women in Our Aging Society", the United States is in the midst of dramatic growth in the number of older people and the aging of its population. Increases in the number of older women compared to older men are especially notable, because of the much higher proportions who are widowed and living alone, and their lower income levels. To paraphrase Dr. Robert Butler's statement a few years ago, the issues of an aging society are the issues that concern older women. There are currently over 6 million more women than men aged 65 and over, comprising more than 60 percent of the total older population. Because of their 7.5 year advantage in average life expectancy at birth, and 4 year advantage at age 65, there are even higher concentrations of women at the oldest ages. Among all persons aged 85 and over, more than two-thirds are women.

And it is the population over 85 that has the fastest rate of growth. It should also be noted that more than one-half of the total gain in life expectancy at age 65 since 1950 has occurred in the last 12 years. Indeed, because average life expectancy at birth has improved so greatly during this century (an increase of 26 years), there is greater likelihood for significant advances in longevity at the higher end of the age spectrum. Life expectancy at age 65 has increased only 5 years since 1900. But, as noted in the OTA report on "Technology and Aging in America," the recent gains for the elderly indicate that the United States has entered what new "era" of accelerated increases in life expectancy at the oldest ages. This era will, I believe, continue for the next few decades as life expectancies both at birth and at age 65 rise in tandem. The trend in longevity increases of the elderly continues to be led by improvements in the life expectancy of older women, although there are indications that their rate of improvement relative to older men is slowing. Nevertheless, the implications are clear: the advantages and disadvantages, or challenges and opportunities, that exist among the elderly today and in the near future are especially true for older women.

During this century, technological advances in public hygiene and sanitation, in immunization and antibiotic treatments against infectious diseases, and improvements in the accessibility and effectiveness of general health care have led to these promising trends in longevity. But with such rapid changes come new problems related to the onset of chronic diseases that can lead to impairment in the ability of

older persons to undertake normal activities of daily living without some type of assistance. Thus, while technology has pushed forward the years of life that remain, it has not automatically assured that all those added years will be disease-free. Although medical knowledge has grown dramatically in terms of treatment or control of acute episodes of major killer diseases, it has lagged in expertise concerning the increase prevalance of health problems associated with the aging of our Nation's population: chronic conditions that can lead to various functional impairments. It is this concern that formed the backbone of the first OTA report on technology and the elderly.

Chronic conditions such as osteoarthritis, which affects almost one-half of all older Americans, and hearing impairments, affecting about 30 percent of the elderly, become more prevalent with increasing age. Persons over 85, the very old, have notably higher prevalance of chronic conditions and resulting functional impairments. They are 6 times more likely than persons aged 65 to 74 to suffer from at least one major condition. Whether at home, in the community, at leisure, or in the workplace, these conditions can notably affect the quality of life of the millions of older persons afflicted. In 1983, of the 26 million noninstitutionalized elderly, 2.3 million needed help with basic activities of daily living such as dressing, bathing, eating, and walking. And 2.7 million older persons required assistance with instrumental activities such as shopping, major household chores, transportation, and managing their money. Those who need assistance in basic activities are also highly likely to need assistance with instrumental activities, but the reverse need not be true.

Aside from these types of dependencies, national survey data indicate that about 40 percent of all older persons living in the community have some type of limitation in major activities such as work, home maintenance chores, and other tasks. The list could go on, including more than 2.6 million who are limited in the use of stairs and about 800,000 who have definite problems using household appliances and other equipment. Older women are especially vulnerable, since they comprise a much greater proportion of the very old and represent four-fifths of all single-person elderly households. These two characteristics account for a great degree of the dependence within the older population.

Technology can play a greater role in responding to these problems, but guidance and incentives from the public and private sectors are needed for this response to materialize and be effective. There are a variety of ways in which technology can be defined and applied. In our studies of the elderly at OTA, technology includes both the process of knowledge development and the application of that knowledge to solving problems. Thus, technology includes the crucial components of research and development that can lead to products ranging from new disease-fighting drugs to improved appliances for the home. Technology is also not limited to those processes and products that are complex (i.e., commonly called "high tech"), such as hemodialysis machines for those with kidney failure. Technology includes relatively simple things (i.e., sometimes called "low tech"), such as safety grab bars for bathrooms. Our studies at OTA on technology and the elderly include this broad range of technologies and their applications.

To facilitate discussion of different technologies, they can be grouped into the following three categories:

Therapeutic and prosthetic technologies.—These technologies substitute for or replace a function or organ that persons normally have. A wheelchair is a common example.

Telecommunications and electronic technologies.—These help individuals to communicate, perform tasks more efficiently, and substitute for some types of mobility. Specially programmed cable television is an example.

Life enhancement, assistive, and convenience technologies.—These provide assistance to older persons to help them remain independent, to promote their quality of life, and to enhance their enjoyment of leisure time and activities.

These categories do not necessarily include all forms of technology that are available. Nor is each category mutually exclusive of the other two. But I find it useful to think in these terms when discussing how technology relates to the daily lives of older persons.

The most important area of concern regarding older women is health and functional capabilities. Our studies indicate a critical need for supportive long-term care services and technologies that can be provided in the home to help older persons remain independent. As noted earlier, the need for such assistance is greatest for those over 75 and those who live alone: the great majority of these older persons are women. In this sense, women are more likely to be victims of their extended longevity relative to men.

Indeed, there is a double jeopardy for older women. Not only are they highly likely to spend a significant portion of their older years widowed and alone (over 50 percent of women versus 12 percent of men over 65 are widowed; among those over 75, the proportions are 70 percent and 22 percent, respectively), they are also more likely to have incomes below or just above the Federal poverty level. Thus, older women are far more likely to need assistance at home and far less likely to have a spouse or other person in the household as a source of informal support. Their lower income levels also make it difficult, if not impossible, for them to purchase needed supportive services. The confluence of these characteristics dramatically increases the risk that older women, especially those over 80, will be institutionalized (elderly women comprise three fourths of all nursing home residents).

Technologies in the home can help ameliorate some of these risk factors to promote independence, lessen the need for supportive care, and reduce the risk of institutionalization. Life enhancement technologies can promote the independence of older women who are alone and chronically impaired from conditions such as osteoarthritis, a disease that can severely limit mobility in or outside of the home and restrict dexterity and the ability to use household appliances. Assistive technologies can be relatively simple devices such as walkers and grip enhancers (e.g., jar openers), or more complex ones such as chair lifts on stairways—electrically driven chairs that can move people up and down stairs. The need for the latter type of technology is great, given the millions of older persons who report significant restrictions in their ability to use stairs (an estimated 2.6 million elderly persons, as noted earlier). But the costs of technologies such as chair lifts are beyond the means of many older Americans.

The whole area of safety and the need for supportive home environments receives too little attention in contrast to the extent of problems that confront the elderly at home. For example, their physical vulnerability to accidents is far greater than for any other age group. This is clear from data on falls. The elderly account for almost 70 percent of all deaths from falls. Falls account for 25 percent of all accidental deaths. The risk of severe fracture associated with falls increases with age, especially over age 75. Yet the U.S. Public Health Service estimates that two-thirds of falls by the elderly may be preventable through changes in the physical environment of the home and increased attention to underlying physical conditions that contribute to falls. Promoting what experts call "environmental congruence" would go far in reducing the prevalence and severity of falls among the elderly. Environmental congruence refers to an improvement in how our physical environment meets our needs for safety, convenience, efficiency and other goals. It seeks to minimize the negative demands placed on us by the environment and to promote the so-called "friendly environment."

Relatively simple adjustments in the home could reduce the stress or dangers that exist for older persons. The risk of falls and tripping can be lessened by removal of door thresholds, replacement or repair of broken stairs, and improved lighting, especially in passageways. Removal of torn or loose rugs, addition of grab bars in high-risk areas such as bathrooms and bathtubs, and removal of slippery surfaces are ways to reduce the risk of falls from slipping. The effect of these environmental adjustments can be enhanced by attention to possible underlying physical conditions that, if treated, could further reduce the risk of accidents among older persons. Poor vision and hearing, conditions that cause dizziness and fainting, and inappropriate or excessive use of drugs are noteworthy contributions to such risks.

For older women, who are most likely to live alone, the risks of death or severe disability from accidents in the home are compounded because they may not receive help quickly. For these persons, telecommunications technologies that can monitor their daily lives could reduce those risks. Where daily telephone reassurance programs do not exist, automatic phone dialing systems could be used. If the person does not answer the phone or has not purposely overridden the system, monitoring personnel would automatically be notified of possible trouble. A similar system has been well-received for use in individual homes through a centralized network. The most common application of this telephone-based alarm system is called "Lifeline." It is often used through hospitals that serve as the central control center. Patients who have been released from the hospital and other community residents who choose to pay the monthly fee for the service can have the alarm system installed in their homes. The more complex system includes an electronic device that is attached to the body. It can detect a fall or be used when an emergency occurs to send a signal to the in-home receiver, which will in turn automatically dial the central switchboard and thereby notify the monitoring personnel of possible trouble in that home. This type of alarm system and similar ones can serve to increase both the

physical and mental security of older persons who are physically vulnerable and who live alone.

Other types of technological adaptations in the home can also foster safety and promote independent living of the elderly. The problems associated with uncorrectable poor vision can be ameliorated by making the environment more manageable for sight-impaired older persons. Bright colors and contrasting textures on different surfaces can help make mobility safer in the home. Appliances such as ranges and stoves can be designed so that all controls are at the front to promote safety and all dials or knobs are enlarged for ease of sight and touch. More complex, and expensive, adjustments would include programmable or so-called "smart" appliances such as ranges that have automatic temperature controls and shut-off mechanisms if left on beyond a predetermined period of time. Automatic sensors that detect dangerously high heats could either sound a warning or automatically shut-off the appliance. New examples of safer appliances are the cordless iron and the iron that shuts itself off if tipped over or left on too long. The most complex domestic electronic technology may be the "computerized home", in which a central computer can be programmed to automatically control lighting, heating, and air conditioning systems, as well as monitor all major appliances, provide a lifeline alarm system, assist the older person to access consumer information, and even monitor the individual's vital signs. These assistive and electronic devices, when combined with the types of environmental adaptations discussed above, could enhance the safety and security of older women at home.

All of these technological interventions and assistive devices for the home could provide double benefits to older women. Because older women are much more likely than older men to be the primary source of informal support to a sibling or parent, interventions that reduce the burden of providing such support can relieve the demands placed on those caregivers. Thus, these environmental changes and supportive technologies can serve the dual function of promoting the independence of older women and assisting them further by reducing the demands placed on them for care of other elderly family members.

The ability to undertake such changes or to pay for the costs of some of these technologies is, unfortunately, a problem for those elderly women who have limited incomes. It may be worthwhile to consider public subsidies through Medicare or Medicaid for those environmental adjustments and added technologies that would clearly promote the independence of an otherwise dependant older person. Savings in the costs of labor-intensive supportive and long-term care services, or even institutionalization, would have to be shown if such subsidies were to be a feasible public program.

Another approach to promoting safety and health for older women includes biomedical research that can provide greatly needed information about ways to promote health, minimize the effects of illness, or prevent disease. For older women in particular, efforts to better understand the causes of osteoporosis and discern ways to prevent its occurrence would be highly beneficial. Osteoporosis is a progressive loss of bone density that most commonly occurs in women over 40 and that becomes progressively worse during the decade following menopause. It is estimated to be the cause of two-thirds of all hip fractures in older people. In 1977, the annual cost for only acute care related to osteoporosis was $800 million. Monetary costs for rehabilitative and long-term supportive care are far greater. For example, of those who survive falls and hip fractures caused by osteoporosis, about 15 percent never return to independent ambulation. It is difficult to estimate the high monetary and social cost of such chronic impairment.

Although improved technologies for acute care of such patients have reduced the death rate from accidents caused by osteoporosis, the more promising route to minimizing the problem is through prevention. For most older women, the degree of bone density loss can be lessened by increased exercise at any age, supplemental intake of calcium, and postmenopausal low-level estrogen replacement therapy. These interventions have been shown to reduce the incidence and severity of osteoporosis in older women, especially when undertaken prior to and soon after menopause. The benefits could be especially marked for women aged 75 and over, when the risk of hip fractures and their severe consequences increases dramatically.

One way to facilitate health promotion and disease prevention, especially for isolated or very old persons, is through telecommunications and the media. As noted earlier, in-home video units can be used to play videotaped diskettes that provide health and other types of consumer information. Cable television can supply an array of programs that are oriented toward health promotion and disease prevention. The assumption that such efforts are unwarranted for the elderly is false. Considerable data are available that indicate the benefits from healthy diets, no smok-

ing, and properly developed exercise for people of all ages. These changes in lifestyle can lead to benefits of good health, reduced prevalence of disease, and increased functional ability of even the very old.

But because these changes need to be carefully instituted, especially exercise and diet, professional guidance is highly recommended. There is, in this respect, some danger in the general availability of video products for these types of behavior changes, because they are not regulated or carefully monitored for accuracy and quality. Thus, caution must be followed in the use of generally available instructional material (whether provided in print or through electronic media). The advice of reputable health care professionals and prudent monitoring of these programs are highly advisable. Consumer protection could be fostered by Federal oversight, guidelines, or regulation of such products.

An additional comment is in order regarding the feasibility of using telecommunications to promote better health of older people. Contrary to some commonly held stereotypes, older people are neither less enthusiastic nor less able to learn to use home computers and other types of telecommunications equipment. Recent demonstration programs have shown the willingness of elderly persons to learn about and to use computers, especially for purposes that enhance their leisure activities and educational interests. This learning is facilitated by sensitive instructors who can respond to the individual capabilities of the older students, as in the case with younger students. If necessary, computer equipment can be designed to accommodate the needs of those older persons with lessened dexterity and limited visual acuity by providing larger keyboards and keys, larger display screens, and slower pacing of programmed material on the screen.

Another application of electronic technology for the well-being of the elderly relates to the use of drugs. While therapeutic technologies such as medications provide untold benefits to the health of older persons, they can also present hidden dangers and problems. Persons over 65 use 30 percent of all prescription drugs—twice as many as the average user. Higher prevalence of disease and chronic conditions among the elderly leads to increased drug use, particularly combinations of two or more drugs, both prescribed and over-the-counter. "Polypharmacy", as this multiple drug use is called, can have unanticipated or unknown negative side effects, especially among the elderly whose altered metabolism changes their ability to process, store, and excrete drugs. Adverse drug reactions and interactions account for up to 17 percent of the hospital admissions of persons aged 70 to 90, which are estimated to cost $3 billion per year.

Proper monitoring and control of drug intake of the elderly is difficult to achieve. More than one physician or pharmacist is often involved in the prescribing and delivery of drugs to older persons. Recent attempts to reduce the dangers from unknown polypharmacy include the use of computers to maintain the records of pharmacy consumers. Computerized records permit the pharmacist to monitor the drugs being taken by the patient. Some pharmacy computer systems include programmed diagnostics that warn the pharmacist when potentially dangerous or questionable combinations of drugs are in one patient's record. The system works well to the extent that all the drugs being taken by the client are included in the computer file. Separate computer records for the same patient in different pharmacies are not likely to include all the drugs being taken by that patient. Hence, consumer information and understanding of the importance to inform the physician and pharmacist of all medications being taken are important factors for this technology to be maximally effective.

One prospect for improving the monitoring system is the use of what has been called a "smart card" in the financial transaction arena. A pharmaceutical smart card would be the size of a plastic credit card upon which a magnetic strip would contain the record of all past and currently prescribed drugs for that patient. A card data entry and data reader computer terminal would be used by both the physician and pharmacist to check the record. Such a system would distinctly improve the likelihood that all prescribed drugs, and perhaps self-reported over-the-counter medications as well, would be included in one record. Such smart cards could even be used for other purposes, such as the person's Social Security number. I believe the Federal Government should consider the feasibility of developing and using Social Security cards with these magnetic record strips, as long as the necessary technological safeguards in their production and use were included to protect patient confidentiality.

A final area of technology that I consider relevant to this discussion of health of older women is the application of biotechnology in diagnostics and the process of aging. Along with the recently developed technologies of computerized axial tomography (CAT) scan and magnetic resonance imaging (MRI), is the promising area of

disease detection and eventual treatment through monoclonal antibodies. These new products of biotechnology are based on the knowledge that specific antigens related to disease in the body can be paired with specific antibodies. Some of these antibodies can be used to diagnose disease well before current methods allow. The ability of monoclonal antibodies to "zero in" or attack very specific antigens could theoretically give rise to as many detection tests as there are antigens. Although the greatest potential diagnostic application of monoclonal antibodies may be for cancers, they are currently being used most successfully in diagnostic kits that test for viral and bacterial infections.

The science of monoclonal antibody production and use is in its infancy, but it promises to have untold benefits in permitting early detection of cancer, heart disease, and other major killers of the elderly. Furthermore, biotechnology procedures could eventually lead to the ability to not only target specific disease-related antigens for detection, but to also use such antibodies as "magic bullets" that will attach themselves only to their specific paired antigens. This capability may permit the destruction of cancer cells for which specific antigens are identified, thereby eliminating the current problem of losing so many normal cells while attempting to eliminate cancer cells in the body.

Biotechnology and biomedical research are beginning to also provide insights into the process of cellular aging. While it remains quite certain that most types of normal human cells have an inherent genetic "biological clock" that limits their lifetimes and the number of times they can replicate themselves, there is growing speculation that the length of time that such cells can survive can be altered. In a sense, it is an extension of the cell's lifetime and pace of aging. If such knowledge can be developed, the biological basis of cellular aging will be better understood. With it will come new information regarding the reasons, both genetic and environmental, for the notably longer life expectancy of women as compared to men (and, I might add, of females in almost every species of animals ranging from elephants to fruit flies). Furthermore, accompanying this prospect of longer life would be the opportunity to promote and assure the good health of persons during those added years. This goal has become especially relevant today, when increased life expectancy does not always mean increased years of good health. This potential problem of adding years of life that are characterized by added time in ill health (e.g., chronic conditions) as well as good health must be addressed.

A concerted effort in these areas of biomedical and biotechnological research can lead to new knowledge of the process of aging and the ways in which the prevalence of disease is associated with aging. This type of effort, along with the applications of existing technologies that can enhance the lives of older women, will surely benefit all persons: old, young, men, and women.

REFERENCES

U.S. Congress, Office of Technology Assessment, "Technology and Aging in America," OTA-BA-264 (Washington, DC: U.S. Government Printing Office, forthcoming in June 1985.)

Senator GLENN. Dr. Ray Gifford, we're honored to have you come over from Cleveland. Dr. Gifford, a native Ohioan, was born in Westerville, attended Otterbein College and obtained his medical degree from Ohio State University. He has had an impressive medical career—Dr. Gifford is the Chair of the Department of Hypertension and Nephrology at the Cleveland Clinic Foundation in Cleveland and also serves as the vice-chairman of the Department of Medicine at Cleveland Clinic.

He is the author of over 300 scientific papers. Dr. Gifford has also served as a consultant to the Mayo Clinic which I guess is almost as good as Cleveland Clinic. He is a member of numerous boards and professional associations, and is active in the Cleveland community. We are happy to have you with us here today, Dr. Gifford. I look forward to your comments.

Dr. GIFFORD. Thank you Senator Glenn. If my memory serves me correctly, Otterbein beat Muskingum in basketball.

MEMBER OF THE AUDIENCE. Once.

Dr. GIFFORD. Once.

STATEMENT OF RAYMOND W. GIFFORD, JR., M.D., CLEVELAND, OH, CHAIRMAN, DEPARTMENT OF HYPERTENSION AND NEPHROLOGY, CLEVELAND CLINIC

It is a great pleasure for me to be here and so share with you some of my experiences and ideas about the aging proccess, not only because in my practice I deal with a lot of elderly patients in cardiovascular area, but also I, myself, by subdefinition seem to be in that subclassification.

It's true that women outlive men and that by the time you're age 75, there are almost twice as many women alive as men, and yet when you look at the causes of death, they are the same. Coronary disease is No. 1 for men and women. It just occurs earlier in men than women. Cancer is No. 2, and stroke is No. 3; and these are three of the areas that we deal with heavily at the Cleveland Clinic.

The clinic is one of the outstanding tertiary care centers in the Nation. This was recently recognized when the clinic was designated by the Federal Government as a national and regional referral center. I saw 31,000 inpatient admissions in the hospital in the last year of which slightly over a third were Medicare patients. So we've had a lot of experience. I agree with what Mr. Harootyan said that we have no idea how much farther we can extend the life span in this country. It will be through a combination of technology, education and research because a lot of the things that we can do to extend our own life spans depend on us. We know that treating hypertension, for instance, will reduce the intensity of stroke and heart attack, two of the major killers. That's already been shown because in the last decade in this country, the mortality rate for coronary diseases, for heart attack, has decreased 26 percent, and the mortality rate for stroke has decreased 46 percent. So we're already on the way.

Not all of this can be attributed to changes in lifestyle. We've had some very notable technology advancements to go along with this. We now are able to ream out carotid arteries when they're partially broken. We can bypass coronary arteries and restore normal blood flow to a diseased heart. We're even, as you know, transplanting hearts and putting artificial hearts in. This is just a beginning perhaps to a new era.

By and large, the best way to handle this is not to wait until it occurs. The best way to handle this is to prevent it in the first place. I think we have those means available now, but it takes a lot of cooperation, a lot of motivation, because you have to do it yourself. The doctor can't give you a pill and say, "This is going to prevent your heart attack or prevent your stroke." You have to change your lifestyle. You have to stop smoking cigarettes. You have to exercise more. You have to change your dietary habits. Fifteen years ago, this country consumed a lot of saturated fats. There's been a change in this. We are now consuming much less saturated fat and more unsaturated fat and are treating and identifying hypertension. Do you know that among 65-year-old people

and greater that almost 50 percent have hypertension? When this is treated, we can reduce the incidence of stroke and heart attack.

Senator, I'm participating in a nationwide study known as "Help for Systolic Hypertension in the Elderly Program" that's being sponsored by the National Heart, Lung & Blood Institute by the National Institute on Aging. Right now, we don't know if treating elderly patients with what we call systolic hypertension is beneficial. Systolic hypertension means that the systolic blood pressure is high, but the diastolic blood pressure is normal. An example is 185 over 85. We know for sure that if the diastolic is 90 or more, the treating does reduce the risk of stroke and heart attack, but we have no idea whether treating this usual type of hypertension which occurs predominantly in the older people—20 percent of the people 80 or older will have this type of hypertension—we have no idea whether treating that will be beneficial; and yet it's important because it involves so many people, and if it is effective, we can prevent strokes and heart attacks that are happening right now.

So this is a multiple dollar study involving 17 different medical centers throughout the United States to look at this. Right now they're in the process of recruiting patients 60 years of age or older who have systolic blood pressures of 160 and diastolic pressures less than 90. Through the 1980's and 1970's and over the next 7 years, they're going to treat half and observe the other half and see what happens. I think it's going to be a monumental study, but I think it has great signficance because, as I believe, the treatment will prove to be beneficial. Then it should be extended to all the people in this age group who have this type of hypertension because it can protect or it will protect against heart attack and stroke. This is just one example of some of the research that is going on to help elderly people and to extend our life span.

I also agree with Mr. Harootyan that we just don't want to extend our life span in years. We want to extend it as far as the quality of life is concerned. We may be able to salvage patients after they've had a stroke, but their life, their quality of life and the independence that they once had may be gone; and this must also be considered in any technological advances that we have.

Now, a few comments on factors influencing drug therapy in the elderly are necessary. Medical care of the sick elderly is very often more complex because they have multiple diseases. Mr. Harootyan referred to the fact that the elderly consumed 30 percent of all drugs. I think it's more than that from the data I have. They may constitute about 20 percent of the population, but they consume more than 40 percent of all drugs. Elderly are more likely than younger people to take over-the-counter drugs, and they don't count this as medicine. They come in to see me, and I ask, "What medicines are you taking?" They respond with, "I take this, this and this." They tell me what was prescribed, but they don't tell me that they bought three or four things over the counter. The more medicines you take, the more chance there is for drug interactions. This is a very big problem.

I also want to put in a plug for training physicians to learn more about taking care of the elderly. I hesitate to say this in public, but I will. I think most physicians feel that if they get an M.D. degree,

they can treat elderly just as well as they can treat the middle-aged and younger population.

Now, more and more, they're not trying to treat kids. I don't like to treat kids. The dosages are different. Most of the time you're treating the mothers. A long time ago, I gave that up, and I said, "Thank God that we have pediatricians." Well, we're gradually getting to the point that physicians are going to realize that, "Thank God we have geriatricians," except we don't have enough of them, and I think we need more training in the medical schools because—well, I can say it because I'm one of you. Elderly people are different. They respond to drugs different. We metabolize drugs differently. They have psychosocial problems that the middle-aged don't have, and this has to be taken into consideration. So I need to make a plea that we do something to educate our existing physicians—we call that continuing medical education, and this is a good example of that. This is a place where that's done—in the care of the elderly, the unique responses of the elderly to drug therapy, the unique needs of the elderly dietary, nutritional, psychosocial as well as drug treatment, so that we can provide better medical care in the future for the elderly people.

I'll close with a plea also that we don't cut back on our research fund. I'm speaking to you, Senator Glenn, because——

Senator GLENN. You're preaching to the choir.

Dr. GIFFORD [continuing]. It's because of research that we are where we are today. We have the finest medical care system in the world in this country. We have extended the life span of our citizens' years just in the last decade or so. On the horizon are a lot of promising discoveries if we can apply them and develop them, but this takes research. It takes research dollars, and now is not the time to cut back on those research dollars that have brought us so far. Thank you very much,

[The prepared statement of Dr. Gifford follows:]

PREPARED STATEMENT OF DR. GIFFORD

INTRODUCTION

I am Ray W. Gifford, M.D., a practicing physician at the Cleveland Clinic Foundation. I am a graduate of Ohio State University, with special training both there and at the Mayo Clinic. My specialty areas are hypertension and renal disease. I appreciate the opportunity to testify before the United States Senate Special Committee on Aging as it investigates the question of the prospects of better health for older women, and I commend you and the Committee for continuing to address this important topic.

As you are aware, the large majority of elderly in our nation are women. In 1980 there were only 68 males for every 100 females 65 years or older. At ages 75 and over, there were only 55 males for every 100 females.

While older males have higher death rates than older females for most conditions, older females tend to have more chronic conditions. Just a focus on differences is misleading though. The major killers are common to both sexes. For example, diseases of the heart represent the leading cause of death for both males and females over age 65. Malignant neoplasms are the second leading cause of death for both sexes. Cerebrovascular diseases are the third major cause of death for both sexes. Accordingly, much of the work that goes on in institutions such as the Cleveland Clinic Foundation is of benefit to all, not just to one sex or the other.

THE CLEVELAND CLINIC FOUNDATION

The Cleveland Clinic Foundation (CCF) is one of the outstanding tertiary care centers in our nation. This was recently recognized when CCF was designated by the

federal government as a national and regional referral center. CCF includes an outpatient clinic, a 1,008 bed hospital, a research division, the nation's largest free-standing postgraduate medical education program, a full-time staff of 387 physicians, and a total staff of 7,500. Advances in medical science at CCF include: Development of cardiac catheterization and coronary angiography; Pioneering work in kidney transplantation, kidney revascularization and the artificial kidney; Design and refinement of artificial organs including assist devices for the heart and the totally implantable artificial heart; Continuing development or refinement of artificial components to replace crippled joints such as hip or knee; and Refinement of new noninvasive radiologic techniques such as digital subtraction angiography and nuclear magnetic resonance.

In the past year CCF had approximately 31,000 inpatient admissions, of which slightly over a third were Medicare patients. Additionally, the Foundation had over 580,000 outpatient visits. Our emphasis is on high quality patient care, with our research and educational activities devoted to supporting our patient care practice. It is the mix of these components that enables CCF to maintain its position at the leading edge of technological innovation in the advancement of clinical medicine.

I would add at this point that the Administration initiatives to reduce federal financial support for medical education and to reduce the number of research grants that NIH may award will have long term adverse effects on our ability to learn, innovate and provide the best, most advanced high quality care. I would like to insert for the record a copy of an article I authored for the "Cleveland Physician" in April of 1984. The populations that would feel the effects of these reductions first will be those most vulnerable—the elderly and the poor. I would urge that you and the Committee continue your efforts to see that these adverse consequences do not occur.

NEW MODALITIES AND THE ELDERLY

Drug therapy

Drug therapy changes with increasing age. Research has shown that age related biologic and physiologic changes in the elderly require adjusting the drugs and doses prescribed in the treatment of health problems. While we have found that the amount, frequency of dosage and ability of the elderly person to absorb drugs varies greatly within the elderly, the difference is still greater when compared with individuals aged between 20 and 50. Physicians and the elderly themselves must understand the complex considerations that attend pharmacologic therapy. Through education and research, it is possible for both the physician and patient to make drug therapy in the elderly safer and more effective.

A few comments on the factors influencing drug therapy in the elderly are necessary. Medical care of the sick elderly is very often more complex than in younger patients because of not only the patient's multiple health problems, but also psychologic and socioeconomic problems. These conditions must be taken into account as we treat the medical problem in order to ensure a successful result of the treatment. A question to be answered is: Are there persons at home to assist or take care of the sick elderly person so she/he can return home to be assisted by home care services if needed rather than be sent to a nursing home.

We know that four out of every five elderly persons have at least one chronic illness and usually more. As a result it is not unusual for elderly patients to be taking anywhere from three to twelve prescribed medications simultaneously! One study indicated that elderly patients averaged ten prescribed drugs. The older the patient, the more chronic becomes the treatment; and therefore, the treatment of choice is then pharmacologic in nature. It should be noted that many of the causes of diseases such as those affecting the heart, kidney, and brain are not yet fully understood. Here again is the reason that America must continue to support both basic and clinical biomedical research and not reduce our commitment to maintain a world-wide leadership position in biomedical research and health care.

The World Health Organization reported that although the elderly consist of 20% or more of the population, they were responsible for more than 50% of the total drug consumption. In the U.S., patients in long term care institutions receive on the average eight drugs in the first ten days of their arrival.

We know that age-related changes affect drug actions. There have been many studies that have shown that drug absorption, distribution, metabolism, excretion, and sensitivity varies greatly with age and particularly in the elderly. Still, much is unknown and we need to increase our clinical research efforts in the area of drug interaction in the elderly. Dr. Joseph G. Ouslander developed the attached table

that succinctly describes the factors influencing successful drug therapy in the elderly.

Time doesn't permit elaborating on each of these factors, but it is important to note that the physician as well as the patient and the family member or friend must have open communication in order to ensure not only compliance to the treatment regime but also maximizing the therapeutic effect of the drug. I should note two of the twelve recommendations made by the WHO Report on Health Care in the Elderly. They stated by that geriatric patient education programs should be expanded and basic research in human physiology and the pharmacology of aging should be increased.

SOLID ORGAN TRANSPLANTATION

In the past 20 years, modern transplantation has evolved from a series of experiments into a clinical therapy that favorably affects the quality of life, rehabilitation and longevity. Refinements in surgical technique, improved immunologic monitoring, and the advent of cyclosporine are responsible for a new era of transplantation. In nearly all organ-specific areas, early and intermediate term results are impressive and consistently improving.

In recognition of the improving experience with a major solid organ transplantation at established centers and a demonstrated need for expanded transplantation capabilities in the state of Ohio, the Cleveland Clinic Foundation, Ohio State University Hospitals, University Hospitals of Cleveland, and the University of Cincinnati—with support of the Ohio Health Department and Governor Celeste—have formed a unique and innovative consortium for the establishment of transplantation programs in heart and heart/lung, liver and pancreas to serve an unmet demand for such services by residents of the state of Ohio and surrounding states. Certificate of Need for the cooperating institutions has been approved.

The Ohio Solid Organ Transplantation Consortium has reached a philosophical and operational concensus. Agreement has been reached on selection and prioritization process, donor procurement, treatment protocols, sharing of results and appropriate research studies to ensure optimal and equitable application of major solid organ transplantation for public benefit. It will also provide a mechanism for the cost-effective utilization of medical resources.

The consortium's uniform criteria for patient selection speaks to the questions of age with respect to heart, heart-lung, pancreas, and liver transplantation. Uniform medical criteria were established by the consortium for recipient selection specifically tailored to each organ. Recipient selection will be nondiscriminatory as to sex, race, and economic considerations.

The details of the funding of patient access to solid organ transplantation are being developed through continuing discussions between consortium institutions and the Ohio Department of Health, and within state government. This program is addressing the following issues: fairness of access, specific impacts on the Medicaid program, response to other major third party payors, protection of the resources to continue delivery of basic services in the Medicaid program, response to other major third party payors, protection of the resources to continue delivery of basic services in the Medicaid program, and protection of those patients who might "fall between the cracks."

With respect to age selection, the following patient indications for transplantation and donor criteria were agreed upon:

Heart transplantation—patient age of 50 years or younger and acceptable donors age 35 years and less for men and 40 years or less for women. Heart/lung same conditions.

Liver transplantation—patient age 50 years of age or younger and acceptable donors of 50 years or less regardless of sex.

Pancreas—patient age 50 years of age or younger and acceptable donors of same age.

There are numerous criteria for the type of patient who would be considered a good risk for this type of operation as well as for the donors. These are very technical and I would be glad to include these for the record.

What is obvious with transplantation considerations is that this medical procedure is most beneficial in men and women under 50 years of age. In elderly patients there are too many physiologic contraindications which lead to greater risk and poorer outcomes.

TECHNOLOGY AND AGING

Research at the basic and clinical levels remains the key ingredient in our ability to improve the health status of our citizens to prevent, ameliorate or cure disease. We have in fact achieved a level of excellence in American medicine that is second to none in the world. If we are to maintain the position and ensure the prospects for better health for women and men in the 21st Century, we cannot afford to retrench or cut federal commitments to this area. George A. Keyworth II, President Reagan's science advisor, states that:

"Today we must use our technology resources much more aggressively. Technology and talent are virtually our only clear competitive advantages. . . ."

This position is just as true for bio-medical research as it is for our industrial and military. The importance of governmental biomedical research is borne out by the research sponsored by the National Institute on Aging (NIA). Among the recent findings of NIA studies are:

Digoxin, a drug commonly prescribed for chronic heart disease, may be ineffective in certain elderly patients.

Aging of the brain may act as a "pacemaker" for other forms of aging.

Dietary restrictions in animals may rejuvenate the immune system.

Risks of hospital-acquired illness are significantly higher for older people than for the young.

Healthy older men maintain the same production level of the sexual hormone testosterone as younger men.

The body's ability to monitor and regulate its own temperature seems to decrease with age.

Contrary to common belief, individuals do not achieve a long period of stability after maturity and then begin to slide faster and faster downhill. Instead, most changes are gradual and progressive.

The range of normal glucose tolerance levels is lower for older people than for younger people. Now that a scale of acceptable levels has been designed for the elderly, the number of older people mistakenly diagnosed as diabetics should be substantially decreased.

The sharp drop in mortality rates due to heart disease and stroke can largely be attributed to research into the medical management of high blood pressure and the clinical and surgical management of heart disease. While the causes and lasting cures of these diseases are yet to be found, research has led to a lessening of the morbidity and mortality in these areas. Still further improvements in care in the immediate future can continue to be expected, but the need for both basic and applied research will continue.

CONCLUSION

As life expectancy at older ages continues to rise, the incidence of diseases in middle and old age will become more prevalent, e.g., heart disease, cancer, diabetes, and kidney disease. Panel I has addressed the issues of prevention which include environmental, behavioral, and dietary factors all of which also impact on disease. Technology advances have occurred in drugs, medical procedures (bypass surgery, kidney transplants, laser surgery of the eye, etc.) and equipment for diagnostic purposes (MRI and CT scans, heart catheterizations) and for equipment allowing patients greater mobility and an increased quality of life. Electronics and computers will play an increasing role in developing assistive devices that in many instances will be of immense help to the elderly. Hearing aids, optical scanners, and devices to stimulate muscles leading to mobility on the part of the patient are now emerging and should be available and in general use by the 21st century. These developments will reduce the dependence of the patient on others and on costly medical care institutions; thus, reducing the overall burden on financing the health care system. However, these advances in our health care system will not occur without maintaining our investment in medical research and the education of our providers of health care. We have enormous opportunity before us; now is not the time to turn our back on it.

This concludes my statement. I will be happy to answer any questions you may have.

TABLE 1.—FACTORS INFLUENCING SUCCESSFUL DRUG THERAPY IN THE ELDERLY

Steps in successful drug therapy	Factors that may interfere
I Recognition by the patient, family, friend or caretaker of a need for care, and contact with a health professional.	Cultural, economic, physical, and psychologic impairments to recognizing the need for, and obtaining care.
II Diagnosis(es)	Altered reporting and presentation of illness; multiple illnesses.
III Therapeutic plan, prescription, and patient education	Multiple illnesses; diminished vision and hearing; cognitive impairment.
IV Compliance	Polypharmacy; chronicity of illnesses; cultural, economic, physical, and psychologic impairments to compliance.
V Pharmacologic factors: bioavailability, absorption, distribution, metabolism, excretion, and receptor interaction.	Age-related pharmacokinetic and pharmacodynamic changes.
VI Efficacy	Increased susceptibility to adverse reactions.

Senator GLENN. Thank you. I appreciate that very much. When you look at me and talk about research, you're preaching to the choir. I made that a special area of interest when I first went to Washington, and I didn't come here to make political speeches. This is committee work here today, but I'm going to make a short political statement anyway.

This administration cut basic research by almost 30 percent, not just medical, but basic research by almost 30 percent. At the same time the Japanese, the Germans, and the French are increasing their national research efforts and increasing educational funding. We're going the wrong direction friends and neighbors, I'll tell you that when we cut research. This country became what it is because we learned the new things. First, we learned the business—the new basis of doing things. We put people to work in a free economy, and we educated them. Now they're beginning to compete with us, and I think it's tragic when we start cutting back on research and basic research—the stuff that you don't see exactly what the outcome is going to be.

You know, there was a fellow, Sir Alex Fleming, years ago, a couple generations back, who was curious about plain old green garden mold on garbage and why you kept clear of that and why things didn't seem to percolate around that. He decided to look into it a little bit. He was curious about mold on garbage, and that's exactly what it was, green old mold. Out of that curiosity, out of that came what? Penicillin and everything that followed—the extended life expectancy and the different way of treating things all over this world. It's that kind of basic research that we absolutely cannot give up if we expect to be competing in the world, whether in medicine or other areas. I didn't mean to make a political speech.

I would now like to welcome our next witness, Deanne Damschroder. She is truly our hometown witness. Deanne was born here in Toledo, grew up here, attended Toledo University and now works here in Toledo. She is the patient services coordinator of the Northwest Ohio Chapter of the Arthritis Foundation. In this position, her responsibilities include program coordinator for the Arthritis Self-Help Course, ASHC as it's called. This is a nationwide program developed with the National Institute on Aging. She also teaches

ASHC classes and is program director for the Arthritis Aquatic Program run at local YWCA's and YMCA's.

There's been increasing emphasis on patient involvement and education in coping with chronic disease. OTA's Technology and Aging report referred to this changing knowledge as "soft technology" for the elderly, necessary in the fight against chronic diseases. So I look forward to hearing Ms. Damschroder's description of this technology in the fight against arthritis.

STATEMENT OF DEANNE DAMSCHRODER, TOLEDO, OH, THE ARTHRITIS FOUNDATION

Ms. DAMSCHRODER. Thank you, Senator Glenn, for the introduction. I would like to begin by giving a little background information and a few facts about this Nation's No. 1 crippling disease, and that's arthritis.

Currently, 36 million Americans, and that equals out to 1.7 Ohioans—1 in 7 people, 1 in 3 families—are stricken by arthritis. Probably everyone in this room knows of someone who has arthritis.

MEMBER OF THE AUDIENCE. Me.

Ms. DAMSCHRODER. Yes, you. The term arthritis literally means joint inflammation. It's a term described to us as rheumatic disease. The most common forms are rheumatoid, osteoarthritis, gout and lupus.

Even though women have made much progress against discrimination through social and legal reforms, they are still the victims of a very disabling discrimination, and this is arthritis. Of the more than 36 million Americans who have this disease, two-thirds are women. As many as 7 million people suffer from rheumatoid arthritis. That's one of the most killing diseases. That's 7 million, and three-quarters are women.

You usually think of this disease as striking older people in the older years. That's not so. Rheumatoid can strike anyone at any time. Currently, there are 250,000 juvenile rheumatoid arthritis patients. So you can see arthritis is a problem, yes, of old women but of younger women and men also.

Lupus, which I mentioned earlier, is a particularly puzzling form of arthritis. There's about 100,000 American women who suffer from the disease, 9 times the amount of men who suffer from the disease. The other form is osteoarthritis. That's the "wear and tear" type of arthritis, the kind that most people get with old age. That also discriminates against women.

The effects of arthritis on women are significant beyond these vast numbers. Even if a woman does not develop arthritis herself, she must often bear a significant burden in caring for a family member or loved one who has the disease.

Because it is a chronic disease lasting a lifetime, it requires a comprehensive treatment program. That means rest, exercise, medication, hot and cold and listening to your doctor. To be successful, you need to start early. You need to see a physician when you suspect that you do have some arthritis.

Unfortunately, due to many misconceptions that maybe it's only an old person's disease, people delay seeking treatment. When you delay seeking treatment, it gives the disease a chance to progress.

If you would have sought help earlier, perhaps you could prevent some of the deformities that may occur later on. Then when people do get proper medical attention, they sometimes don't follow their treatment programs. Like I said, that includes rest, medication, exercise, heat and cold. A lot of them don't do this because they simply don't understand what they have, and they don't understand, "Why is this doctor making me do this?"

So in response to the need for the kind of factual information about arthritis, the Arthritis Foundation, in conjunction with Kate Lorig at the Stanford Arthritis Center, developed the Arthritis Self-Help Course. This course is a 6-week group education program. It meets for 2 hours, once each week, for 6 consecutive weeks. The participants learn information on the disease process, what happens, what's going on inside their body. Second of all, they learn the anatomy of the joints, what goes where, how this all connects with the whole picture. They learn exercises, stretching exercises, strengthening exercises and the principles behind these exercises. They then also get the chance to get right down there on the floor in class and stretch themselves out and get those muscles working.

Another thing that we learn in class that has been emphasized here is what your medication is supposed to do, types of side effects that you should watch out for. Other topics include diet, nutrition, the importance of calcium and doctor-patient relationships, how to manage your stress, how to control pain and how to relax.

One of the last things that we talk about in our self-help course is joint protection and self-help identification, and I brought a few things to kind of show you exactly what I'm talking about when I say self-help aids. Joint protection means using that joint in its most wise position.

OK. Let's talk about self-help aids. Suppose you have a problem with your shoulder, and you're not able to lift your shoulder higher than this. How are you going to reach something on the top of the shelf. This is where long handles come into play. I brought with me a reacher. No, not a spear gun. It's a simple device where you can grab something on a top shelf. It has a magnet on it. It's very inexpensive. It retails for about $12.

Something else that you can use, a simple device to put on shoes. This is an 18-inch stainless steel long-handled shoe horn. It retails for about $5. If that's too much, we have the homemade version which is a simple shoe horn attached with a metal base onto an old broomstick. It works great.

For people who may have problems eating, built-up handles on your utensils are a good item. This is a plastic piece. Many times you can get them wrapped with foam which prevents you losing your grip.

Other items in the kitchen are—this is an under-the-counter jar opener. It simply fits underneath the counter. When you have a jar, slide it in, and open it up. It's quite simple.

Here's one other item that I'd like to show you. How many of you have ever had to fumble with small little nozzles on a hairspray can? This is a small object. It wraps around your spray can. The small arm is across here. You can take your arm and spray—or your hand rather than using your finger to get at that small

nozzle. Those are just a few of the items that keep yourself functioning. Some of the other items Mr. Harootyan mentioned already.

I'm sure you've seen the chair lifts on TV where the seat allows you to get out of a chair without assistance.

Some other items include things to put on your doorknob so that you don't slip or door levers that you can simply push down with your wrist or your arm so that you don't have to put a tight grasp on something.

A couple other items I'll just mention briefly are what I call the touchtronic lamp. It's a simple device that you can put in a lamp, any lamp that has a metal energized surface. You can touch your lamp, and it goes on. Touch it again, it goes on higher. These are relatively inexpensive at any appliance or maybe an electronic store.

Another item is a ramp. There are many portable ramps on the market right now that you can simply put up over the stairs, or you can get people to construct a ramp for you.

These are just a few of the items that you can make or buy. If you need further information about these types of things, the best person to contact is an occupational therapist. He or she is the health professional that takes care of things when people have a serious illness or injury. He or she will help them adapt their home so they can continue functioning without outside help.

Finally, in answer to a quesiton in the audience, I'm going to tell you about the Arthritis Aquatic Program. There is a warm water exercise program in a shallow pool of 83 degrees or above. People who take part in this program exercise arthritic joints in this warm shallow pool. All activities are designed to increase range of motion and so increase your flexibility and also help build muscle. The program that we run meets twice a week for 8 weeks. In the program, people spend 45 minutes in the pool exercising every joint from the neck down to the toes. Every joint that you exercise is submerged, and the buoyancy and warmth of the water helps you to exercise much easier. It also gives you a chance to interact with people who may have similar problems, and that's very important when you have a chronic disease, dealing with people, solving problems together, working with others.

With the proper balance of rest, exercise, medication, joint protection, heat and cold, relaxation techniques, a person with a chronic illness like arthritis can maintain a very productive life. It is important, however, that you be aware of your disease, know what you have and follow your doctor's orders. In these cases, you can probably continue functioning for many, many years which is what we'd really like to see. Thank you.

Senator GLENN. Thank you very much Deanne, that was excellent. Bob, I was curious about some of the things you talked about on cells. So let's get back to that for a moment, you mentioned the need for research into the process of cellular aging and the various theories of aging. I think there are a dozen or more such theories. One is the body's own immune system fails with age and becomes less immune—it goes haywire and attacks the body's own tissues. Another argues that there can be alterations in the corrective tissues that surround cells. Could you elaborate on some of these theories because that's the most basic fundamental issue of all.

How do we prevent cellular aging? I guess hearts would not age as much, none of our components would age as much unless the cells started giving us trouble. What can you tell us about research in that area?

Mr. HAROOTYAN. Senator Glenn, I preface my remarks by noting that biological aging is a complex area that requires considerable discussion and expertise. There are many theories of human aging and the aging of cells. One group of theories is based on a genetic time factor, as if there's a biological clock that limits the lifetime of cells. One theory is that normal human cells will only duplicate a certain number of times and no longer.

Senator GLENN. Let me ask something. Is it true that brain cells do not replace?

Mr. HAROOTYAN. Yes, as far as we know.

Senator GLENN. Once brain cells go, that's that?

Mr. HAROOTYAN. Yes, that's correct. But there are billions of brain cells, most of which survive in the absence of neurological diseases such as Alzheimer's disease.

Senator GLENN. The rest replace themselves?

Mr. HAROOTYAN. It is not possible to say that all the rest of human cells do. But human cells from fetal tissue, skin biopsies, arterial muscles, the liver, and other sites have been shown to duplicate themselves for only a finite number of times. The cell population doubling is limited.

Senator GLENN. Go ahead.

Mr. HAROOTYAN. These findings are based on laboratory cell cultures done outside the body, or "in vitro." The assumption is that the same events occur within the human body, or "in vivo." There is a clear implication, from this thesis, that human longevity can be increased. But current studies also indicate that as people age, the number of cell population doublings declines. Dr. Leonard Hayflick has postulated that different animal species have different biological clocks, or pacemakers, that determine the maximum cell doublings that can occur. The two types of limitations seem to be related to one another.

Very simply, if you think about a number of replications or doublings of the cell over time, and if you extend the time in which each cell lives, you may be able to expand the time that those cells, taken together, are going to survive.

That's definitely not a technological explanation for how this theory of cellular aging and the limits on replication may apply toward retarding the aging process or delaying the onset of diseases that are associated with age. But one example may help illustrate the idea. The immune system is related to the onset of diseases. There's considerable evidence that, rheumatoid arthritis, for example, is what's called an autoimmune disease: a disease where the immune system malfunctions. The genetic programming in certain cells breaks down, and the cells are attacked by the immune system itself. If you can reverse this or prevent it, you may delay or, better still, prevent the onset of certain types of diseases.

Therefore, as I mentioned in my presentation, if biomedical research can develop evidence of these cellular processes related to aging and disease, then we can examine ways to reduce or eliminate the negative aspects of cellular changes and promote the posi-

tive aspects. One goal is to assure that the added years of life would include added years of good health rather than the double-edged sword of increased life expectancy and prevalence of chronic diseases that we now have.

Senator GLENN. That's very interesting. That's one area that we need to do a lot of research in.

Ray, I know you've been involved with this, I believe it's the Ohio Solid Organ Transplantation Consortium. How far do we go with that? We have a lot of questions. How far do we go with organ replacements and transplants? We see heart transplants weekly now, and we're talking liver transplants, kidney transplants. Would you comment on that, and, in particular, I am interested in one of the criteria that has been set so that the recipient can't be anyone over 50 years of age. I didn't know that was set that way.

Dr. GIFFORD. That's a bad thing to say here, isn't it? Kidney transplants have been done for almost 25 years as an accepted form of treatment, and I think that we can say that kidney transplant is here to stay. It has been effective and has prolonged life. It has improved the quality of life for patients who would have otherwise died from kidney failure. The advent of cyclosporine for prevention and treatment has made transplantation of other organs, notably the heart which they've been doing for 15 years, and more recently the liver and even more recently the pancreas more successful. This is due to technological advances, not only the development of this drug, but other technologies and improved surgical skills, that have made possible this type of transplantation. This is in its infancy like the kidney transplant was 20 years ago.

To curtail costs, Governor Celeste recommended that four of the institutions in Ohio, Cleveland Clinic, Case Western Reserve, Ohio State University and University of Cincinnati go together, draw up criteria and make the most of this opportunity to venture into this new era of solid organ transplantation. One of the things that the Senator alludes to that was decided by this consortium was at least initially that we would not accept recipients over 50 years of age. The same is true for donors, and this just tells you that we don't want to transplant old organs.

As people age, cells decrease and as you get older, you have fewer cells in your liver, in your kidney and your brain. So you want young, healthy organs to transplant, and you want relatively young, healthy recipients to transplant them into while you're still on the learning curve in deciding whether or not this is going to be a useful, viable procedure. I think it is. I think that heart transplant is here to stay. I think liver transplant is here to stay, and I think with more experience we will accept pancreas like we now accept kidney transplant.

There is a limitation in the facilities that are available. There's obvious limitation in the organs that are available for transplantation. There is not so much a limitation in those who need it, but it's not easy to come by a good heart to transplant. There aren't many willing donors for that. When you're caught between this big need and the limitations in facilities and organs that are available, then you try to select what we consider the most likely candidates to get a good result.

We started out this way, Senator, with kidneys 20 years ago. We wouldn't transplant anybody over 50 years of age. In fact, it was 40 years then. Now that we have advanced, we have no age limit for kidney recipients. We will transplant a kidney in an otherwise healthy recipient 65 years of age or older.

Senator GLENN. As an aside here, I have had some personal experience. I'm sort of a frustrated doctor at heart. I have a good friend of mine who is a heart surgeon, and I'd scrub and go in and stand on a little stool behind him and watch the operation. It was fascinating. The last operation I watched him do was a kidney transplant. It was 20 years ago, and, I tell you, it was the most impressive thing I saw in my life.

What about advances in the treatment of high blood pressure?

Dr. GIFFORD. We can treat it. We don't cure it. There has to be a lot of you out there who are taking medicine for blood pressure, and if you don't take it for a day or two and the blood pressure comes up again. So we treat it, but we don't cure it. We won't cure it until we find new drugs. The research in drugs for blood pressure is still a big thing in this country, and I'm glad it is. We're finding better drugs every year, drugs that don't have as many side effects. You know what I mean about side effects from the blood pressure drugs. We can control 90 percent of all patients who have hypertension now with one or a combination of drugs.

The big problem is identifying the patients with hypertension. It doesn't cause any symptoms—lots of times until it causes a stroke or heart failure; you don't know it's there by the way you feel.

So it's important that people have their blood pressures measured to find out if they're in the silent phase of hypertension before the bad things happen. That's the time to find it and treat it.

The other thing is to stay with the medication. Some people say that compliance is a problem. Some say it's a problem with elderly more than it is with younger people. I don't believe that. I've got some elderly patients who comply very well. I mean that they do what the doctors tell them to do better than the younger people do.

Senator GLENN. This is important. Medicare doesn't cover hypertension; is that correct?

Dr. GIFFORD. It will cover the examination to make the diagnosis but it won't cover the drugs. That's for sure. It pays for the office visits, and it pays for the examination. The screening itself depends on where the screening is done. Most screening is done probably outside the physician's office now. There are so many places now that you can get your blood pressure measured. The Red Cross, the Heart Association, and a lot of senior citizen centers have blood pressure screening programs. Airports and shopping centers even have machines. A lot of screening is done outside the doctor's office, and then it's important for the person who is found to be hypertensive to find medical care.

Senator GLENN. Deanne, one question and I'll turn it over to Marcy for questions. You talked about adequate prevention. I'm particularly interested that you said some people delay seeking treatment which could have been preventive. What can people do to prevent—I don't have arthritis. What can I do to prevent it? I'm getting to the age that I should have it.

Ms. DAMSCHRODER. At the present time there is no known cure for arthritis. When I say prevent, I mean when you suspect that you may have some type of arthritis, for example, you're experiencing swelling or redness in a joint that's persistent, it's important you see your physician right away. He can get you on a treatment program that includes medication, rest, exercise and joint protection. The combination of these things may help prevent further joint damage and crippling. That would be the proper way to proceed once you suspect you have it. As far as what you can do generally to just prevent it, since we don't know the exact cause, it would be very difficult for me to say, "If you do this, you won't get arthritis."

Senator GLENN. Thank you. Marcy?

Congresswoman KAPTUR. Mr. Harootyan, I was interested in your comments on that Social Security card and that there be some centralized way of finding out what medication people take, either prescribed by a set of doctors or over-the-counter prescriptions that people buy because I was going to ask the audience—I'm curious. In talking to senior citizens groups, I have found that people feel their friends are over medicated or have old bottles of pills and have added to new bottles of pills, and they take all this stuff which they really don't know what it will do to them. Maybe they see three doctors rather than one doctor, and they don't know the cumulative effect. I wanted to get a sense from the audience. How many people think that the problem of over-medication or not understanding what drugs do to you is a problem for you or somebody in your family or one of your friends?

[Audience indicates.]

Congresswoman KAPTUR. See, I think that's a big problem, and I don't really know what to do. How would one encourage that at the Federal level? Could you go into—it sounds like it would get only the over-the-counter prescription drugs.

Mr. HAROOTYAN. The pharmacy-based system would only include prescription drugs. It would not show the use of over-the-counter drugs. Earlier, I mentioned the idea of a magnetic strip to keep such records. A lot of you are familiar with bank cards used in automatic teller machines. These cards have magnetic strips on which hundreds or thousands of pieces of information are stored, including an individual access code number so that you can do a banking transaction. The same principle can be applied to pharmaceutical records. Just like any credit card or bank card, a pharmaceutical or medical record card could be carried that contains all vital information about the person. Microchip technology permits literally thousands of pieces of information to be stored on one magnetic strip, including information on medication. It will not, unless somehow entered by the consumer, include over-the-counter medications that people purchase and consume.

This is a very important factor that I failed to mention earlier. It's not just prescribed medications that can be the problem. It's often the combination of prescribed drugs with over-the-counter ones that lead to harmful drug interactions. The implication, in lieu of the "smart card," is to at least be sure that persons who are involved in your health care, especially physicians and pharmacists, know about every kind of medication you're taking, especially

if you're seeing more than one physician or using nonprescribed drugs.

Congresswoman KAPTUR. I'm on the Veterans' Affairs Committee, and one of the problems we have seen is a lot of our veterans will go out here to the veterans' clinic and get prescription drugs. They may also have a physician on the outside, and in our medical system you really depend on the patient to be the policeman to tell you what they take. Believe me, they don't. You should see the letters I get. Sometimes there are mix-ups, and people get all this medication inside of them; and the consumer really has to be aware of what they're doing with all these drugs.

Mr. HAROOTYAN. Dr. McGreevey also mentioned that treatment sometimes creates a problem. One of those problems is falls, which are often due to dizziness and fainting spells. Sometimes, improper combinations of over-the-counter and prescribed drugs make elderly persons dizzy, reduce their dexterity, and limit their mobility. Such falls in the elderly can lead to very drastic consequences. It's an extremely important prevention issue.

Congresswoman KAPTUR. If you could, from a policy standpoint, please comment on the present coverages of various kinds of medical services that we have talked about today provided by health insurers as well as Medicare. If you were to identify the biggest gaps in the existing system for many of the issues we have talked about today or your own frustrations as a physician, if you could tell the people in Congress how to make it better, please do so.

Dr. GIFFORD. Thank you. Thank you.

Congresswoman KAPTUR. If anybody else on the panel feels compelled to reply, go right ahead.

Dr. GIFFORD. This could take a while. As a matter of fact, I have a little problem with Medicare. Many of my patients are under Medicare, and the tendency—I don't have to tell you this—the tendency is to save money on Medicare, and Medicare is definitely being cut back. The doctor is caught in the middle with a freeze on his fees; the next thing will be mandatory assignment which means the physician must accept whatever reimbursement the Government decides to give him/her. Fees are already so low that if we were to mandate this, I think a lot of doctors would go out of the business of caring for elderly patients.

Medicare started out as a fine thing. It promised something to everybody 65 years or older, and it really hasn't done the job. It doesn't pay for the drugs. Obviously, this may be a minor thing compared to the total health care burden that Medicare carries. The drugs are a small item, but it isn't a small item to the patient who has to take three or four drugs; and it can be a barrier to their compliance.

It doesn't cover general examinations which might pick up a disease earlier. It does not pay for a routine mammogram, for instance, yet a mammogram is the best and surest way to detect breast cancer while it's potentially curable. Medicare is cutting down on reimbursement for hospitals through DRG's, as you know.

We haven't talked much of hip replacement. In England you can't get a hip replacement under government health insurance if you're 60 years of age or older unless you wait for a year or two. It

diminishes the quality of life. You can't get a kidney transplant if you're over 55 in England, and you can't get dialysis——

MEMBER OF THE AUDIENCE. That's not true. My brother-in-law was 65, and he had a kidney transplant 3 years ago.

Dr. GIFFORD. Where?

MEMBER OF THE AUDIENCE. In England.

Dr. GIFFORD. That's very unusual, very unusual. No coronary bypasses for elderly people. This is the general philosophy in England, and that's what we call rationing of health care; and who gets rationed out of it? You do. This really bothers me as far as the effort to tighten the budget on Medicare. I admit that there was a lot of fat in hospital operations, but I think that's gone now. From now on, it's going to be rationing services.

I've told you about Medicare. The other insurances tend to follow suit. The private carriers tend to follow suit 5 years after the Government makes their move, and, in fact, this will eventually be true for all of us who are insured under private insurers.

Congresswoman KAPTUR. I wanted to ask the audience a question. How many people here are presently on Medicare? Raise your hand for me.

[Audience indicates.]

Congresswoman KAPTUR. OK. Of that group, how many of you also have supplemental insurance of some kind?

[Audience indicates.]

Congresswoman KAPTUR. You would be surprised how many people don't know whether they have it or not.

I wanted to also ask Deanne on arthritis. You just gave an excellent presentation. You taught all of us a lot, including me. My mother has a form of arthritis, but what are your frustrations in your job? We have a large group of people, several hundred people, and you like to reach people who need help. You probably reach a small percent of the people that need to be reached. How can we make your job easier?

Ms. DAMSCHRODER. You could make my job easier by promoting health care and what we do with our self-help course. Make people aware of preventive medicine, the things you can do, the steps you can take, the places you can go to receive proper medical care. There are so many people who call our office and are so uneducated about the rheumatic diseases and about where to turn for help. Those calls are mainly from seniors. They need to know where to go, and we need more places for them to turn. I don't know how many calls we receive in a month for assistance with medication. That has to be one of the biggest requests we receive at our office.

I would like to see more education about arthritis and other chronic diseases, more education available to the public, free of charge if possible and more funding for research into the cause, prevention and cure of arthritis.

Congresswoman KAPTUR. Thank you.

Mr. JANIS. I think what Deanne just had to say in answer to Marcy's question, of course, brings up a point from my standpoint. In order to bring about that which she speaks of, we depend upon the Older Americans Act, and I'm sympathetic with what Dr. Gifford has to say about research—I served on the board of the National Institute on Aging. So I realize the importance of proper

funding, adequate funding, for basic research—but we also need adequate funding to cover those things that have been pretty much the topic of each of the panelists. That is preventive measures today.

The Older Americans Act which Congress created 20 years ago is one of our basic American documents. To me it's equal to the Declaration of Independence and to the Constitution of the United States, for within it Congress mandated the kind of responsibility owed to older Americans by the Congress, the States and the local subdivisions.

Mr. Harootyan, I'd like to ask you this question by reason of what you so well presented with respect to technology. We all know we talked about assisted living, et cetera. This information that you just gave us, do you make it available to each of the Members of Congress, or are you restricted by reason of your position in the department of which you are a part?

Mr. HAROOTYAN. No, quite the contrary, Mr. Janis. The Office of Technology Assessment is both bicameral and bipartisan as reflected in the composition of its Board. In fact, I believe it has a fine reputation for being objective and not political. The objectivity of our work is quite well-protected in that regard, and because we are an agency of Congress, our mission is to provide information in response to congressional requests and interest. That's why at the beginning I said that the opinions I express are not necessarily those of the OTA staff or members of the Technology Assessment Board. OTA supports Congress' work by providing as objective and clear analyses of issues as possible. We provide summaries of all major reports to every Member of Congress, both the House of Representatives and the Senate. Full reports are automatically delivered to the requesting committees and their members, and to any other Congressperson who requests one. Complimentary copies of the summaries are also available to the public, in our efforts to promote the information in as widespread a manner as possible. The full reports can be purchased by the public from OTA or the U.S. Government Printing Office.

Senator GLENN. If I could comment on that. I think the only courtesy, the only holdup, is if I commission a study at OTA, I get it 24 hours in advance as a general rule; is that correct?

Mr. HAROOTYAN. Yes. The congressional staff and requesting Congressmen don't see our work before we finish it.

Mr. JANIS. I was interested in that because one of my concerns has been that there hasn't been any increase in funding for the older American. We're talking about all the preventive measures which in the long run are money-saving, and yet we don't get adequate funding. I know individual Members of Congress are inundated with information, but yet I was interested in this one particular phase of it.

The other question I wanted to ask of you, and it's germaine, in your opening comment you made about our ranking 14th in death mortality, why? Do you know? We're so used to saying America's number one, two or three.

Mr. HAROOTYAN. The United States ranks about 15th in infant mortality. That's the measure for deaths in the first year of life, where the greatest risk occurs, except for the very oldest ages.

After age 75, the rate approaches and surpasses what it was in the first year of life. During this century, we have done very well in reducing the mortality risk in the first year of life; but we have accomplished very little at the other end of the life span. We're now seeing the frontiers of increased longevity at the older ages. The reason for the reductions in infant mortality have primarily been improved public hygiene and health, better control over fertility, and improved maternal care and prenatal diagnostics. Some segments of the population still don't get the kind of prenatal and maternal care that's necessary, and the educational effort is lacking. For example, smoking is a risk factor in premature birth, probably the greatest risk factor to lives of babies. Yet enough women don't hear about such risks and should be better educated in what they can do to reduce or prevent those risks.

As an added thought about smoking, it should be noted that for the first time, this year we expect lung cancer to surpass breast cancer as the leading cause of death from cancer in women. Simply stated, women's smoking habits have caught up with them. But you can change those detriments at any age, and the evidence is clear of what we have to do.

Mr. JANIS. Only one other comment, Senator Glenn, and that is, as Billie Sewell Johnson mentioned this morning in her presentation, the reduction in Federal funding or at least maintaining them at previous levels has meant that there's been a stronger effort to get the private sector involved, which to some degree has been helpful.

I just wanted to mention a physician who was instrumental in the development of the American Heart Association and now is involved in the private sector in aging research. Dr. Wright 3 years ago took it upon himself to establish the American Federation for Aging Research which you're going to hear more about because their intent is to create chapters throughout the country in the same manner as the American Heart Association and American Cancer Society do at the present time. I think as a result this will give some stimulation to aging research and demonstrate the importance of the private sector.

Senator GLENN. Thank you very much, Martin. We're way over on time, and we promised you a few questions.

MEMBER OF THE AUDIENCE. Promotion, prevention, I think you covered that real well. Financing, home health care for those who can't afford it for home health aids, serve the education of the health professional to do better jobs.

I have not heard the discriminatory practice that you currently have under the DRG system. It discriminates against the aging as to the average that's going to be admitted. There is no comfort that we have in that there is a committee to change DRG structure. This structure itself is a problem, and we in turn I think need to have a whole meeting of this kind to look at the needs of the elderly who possibly were not admitted. Nursing homes have been having to take care of them, and we need to have a way in which we can revise or throw out the concept as the payment mechanism for our condition. We've been mandated now that next year physicians are going to be paid out of that amount of money for their physician fees. There's no mechanism to code the material that

we're currently using. I realize that the time is late, and I just wanted to get that on the agenda and see what we're——

Senator GLENN. Would you please identify yourself, sir?

MEMBER OF THE AUDIENCE. Morton Blackwood.

Senator GLENN. I just wanted to make sure that they know you've looked into this in some depth. Would any of you care to comment on this DRG situation?

Mr. HAROOTYAN. I have one quick comment. The DRG's are a cost-saving effort, an effort to control the rapid high increase in inflation of medical costs. For that reason DRG's may discriminate against the elderly. Those with more complex and long-term conditions, or conditions difficult to diagnose, may be less likely to either be admitted to the hospital or be kept for treatment because the hospital might lose money on that admission. One danger of the prospective payment system and DRG's is the possibility that hospitals may seek to get the best reimbursement available by selective admission and treatment.

It should be noted that the United States is the only developed country that specifically separates the elderly from other age groups in terms of subsidizing health care. Most every country in the world that provides a system for health care, the elderly get assistance. So any system that is developed by our Government to control costs in health care will initially be targeted at Medicare and then at Medicaid, which is targeted toward low-income persons of all ages.

Perhaps you're right, because there is recent evidence that elderly patients are being released earlier and, therefore, need more supportive care in the home or must be readmitted to the hospital soon after their release.

MEMBER OF THE AUDIENCE. I wanted to make the comment about Medicare. If they do not pay, and I refuse to pay, then you're stuck with medical insurance that refuses to pay also. So you have to pay it off.

Senator GLENN. That would vary, I guess, from one type of supplemental policy to another I would presume.

MEMBER OF THE AUDIENCE. I don't know. Some of them. Blue Cross and Blue Shield.

Senator GLENN. We have time for one more.

MEMBER OF THE AUDIENCE. I want to comment about the security for medication. At the Ohio Department of Health, through the clinics, we have in our Senior Programs where we have medical clinics or nurses available. There are medicine cards available in Ohio that can be given to the patient. They can be educated, and you have to coordinate this with your pharmacists in your community; and I'm from the Sandusky County Health Department. What we do in our clinics is for each patient we mark all the medicines that are prescriptive drugs and all that they have over the counter, and then the patient is advised to give this to the drugstore, no matter what drug store; and the pharmacist will tell them when they buy an over-the-counter drug whether it will counteract with the medications they're taking. Maybe we can do something like that in the meantime.

Congresswoman KAPTUR. Thank you very much. Do we have those cards in Lucas County? Would you send me a copy of one those, ma'am?

MEMBER OF THE AUDIENCE. Yes.

Senator GLENN. One more, then we'll quit.

MEMBER OF THE AUDIENCE. In that same vein, we have heard quite a bit from our panel about the interaction of drugs as they affect our elderly physically, but I'd like to hear from Dr. Gifford about how these drugs can have our elderly appear senile as they interact and have them viewed senile by their families and by their doctors, when actually it's drug interaction.

Senator GLENN. The question was that some of the drug interactions get to the point where it makes the elderly appear senile when they're not if they weren't on the drugs. She wanted Dr. Gifford to comment on this.

Dr. GIFFORD. That's an excellent question, and it does happen; and it's a so-called side effect that we see. It may be the side effect of a single drug. We have to be very careful of this. It can also be the result of drug interaction. Often the physician really doesn't know everything that the patient is taking—and, as I said before, this frequently happens with patients who buy over-the-counter remedies and add them on to three or four prescribed medications. They forget and think they really aren't medicines if you can buy them in the drugstore—it can very likely happen. This is one of the things we must always think about. They have a sudden change in personality. They appear to be becoming senile.

Senator GLENN. I pointed out the woman back here who has been trying to get my attention. Just one more, and this honestly will be it.

MEMBER OF THE AUDIENCE. I'm interested in having an answer to this. We have all of our technology to perfect all of these great operations, heart transplants, kidney transplants, et cetera, but it takes an entire community to turn out to raise the money to keep one person alive. Our medical society in this country has become so money conscious that they have put a dollar sign on your life and mine. What are we going to do about it?

Senator GLENN. Well, does anyone want to field that one?

Dr. GIFFORD. I guess that's directed at me.

Senator GLENN. I'm not going to field it. I know that.

Dr. GIFFORD. I think that physicians get a lot of blame that they really don't deserve. Physicians do not run hospitals. Sometimes hospitals run physicians, but physicians do not run hospitals; and many times in the kind of cases you're talking about, it's the hospital bill, not the physician's bill that creates the problem.

I'd like to have you know that in Cleveland, OH, the Academy of Medicine took the lead to provide medical care free of charge for unemployed citizens of Cleveland, and we're still doing that. I think a lot of times the doctors get a bum rap. Physicians are usually conscientious about their fees, although I realize that there are some doctors that do take advantage of their patients.

Senator GLENN. We need hours to discuss that one. I think the fastest growing costs are the hospital costs. There have been some efforts in some States—Maryland is one—where the hospitals submit their budget for the coming year for the State organization

to approve. It's required, and that prevents everyone wanting a CAT scan and tries to hold down some of the expenses. Peer review is another way of doing some of these things. I think the doctors' cost of it overall averages out to, what, 20 or 25 percent, and the growing medical costs have been the costs of running a hospital. This goes back into all the things that the hospital has to provide, how much they pay their people and so on.

There's no one answer to it, and we have a series of hearings on this. Has that been printed up, Diane? If it has, if you could come up, we'll get your name and address. We will try to send you a copy.

We have to end here now. I want to thank our witnesses. We've gotten into quite a number of issues. Some of our future hearings, as I mentioned in my opening remarks, will include some of the environmental impacts on health, accident prevention, and things such as that.

Another important issue which I wish we had touched more on today was something that Mr. Harootyan had in his statement. This is how we set up in this country a coordinated system of community-based health and social services and health services. This was an issue that was the subject of the first Aging Committee hearing that I held in Ohio that was in Cleveland in 1977. We all know we're a long way from providing the necessary and appropriate assistance in care of the chronically ill and elderly.

Today's hearing has been very interesting to me, and I want to thank all of you for coming; and in particular I want to thank our panelists who have done such an outstanding job. Thank you all. I hope you'll avail yourselves of the opportunity to get some of the literature. Please fill out the yellow sheet and leave it with one of the people. Thank you very much.

[The hearing was concluded at 1:30 p.m.]

APPENDIX

MATERIAL RELATED TO HEARING

ITEM 1.—SECOND OPINION

IS TEN PERCENT ENOUGH?

(By Ray W. Gifford, Jr., MD)

As I look back over the many events that have occurred in the year since we last met here, I am most proud of Project '83. This program has demonstrated in a very real way the human concern and compassion which has traditionally characterized the medical profession.

In this day and age it isn't often that the medical profession is treated kindly by the media. We are often unfairly portrayed as being selfish, insensitive and greedy—accusations which Project '83 and similar programs throughout the nation have eloquently refuted.

Much of the past year has been devoted to problems related to the rising cost of health care. The Academy of Medicine is participating with industry, the Greater Cleveland Hospital Association and representatives of third party carriers in the Utilization Review Coordinating Council (URCC) to monitor hospital utilization. We are also involved with industry, labor, hospital associations, and growth associations in the Greater Cleveland Voluntary Health Planning Association to review and make appropriate recommendations regarding expansion and/or building of new acute care facilities in this area.

Another result of the universal desire to contain health care costs is the competitive movement in the delivery of health care services that threatens our traditional modes of practice. I refer to the IPA, the HMO and the PPO. Solo practitioners are scurrying to take refuge in such systems to protect their practices, and multi-specialty groups are seeking to establish linkages with other hospitals and group practices to insure a referral pattern.

The medical profession is blamed by the government, by industry, and by the press for rising costs of medical care—even though much of it is beyond our control. Physicians' services account for only 19% of the national health care pie. Physicians' fees have increased slightly more than the consumer price index (CPI) over the last 10 years, but due to increasing overhead, net income for physicians has not kept pace with inflation.

But there are others who must share the blame for the uncontrolled cost of medical care. To the extent that the escalation of health care costs is due to inefficient management and business practices of hospitals, they are to blame. To the extent that escalation of health care costs is due to the litigious climate and patients' demands for extraordinary and questionably necessary services, the public is to blame. To the extent that escalation of health care costs is due to enormous and outlandish judgments in professional liability suits, the courts are to blame. To the extent that escalation of health care costs is due to legislation that has fostered a surplus of physicians and hospitals, has mandated minimum benefits in insurance contracts and has established a bureaucracy in each hospital to comply with regulations, the government is to blame. To the extent that labor continues to insist on first dollar coverage, they are to blame. To the extent that reimbursement formulas by third party carriers have provided incentives for use of high cost technology over cognitive services, and for hospitalization over outpatient care, they are to blame.

Nevertheless, it is we, as physicians, who are the "gatekeepers" to the hospital which accounts for 41% of the health care pie, and to the myriad diagnostic and therapeutic procedures which have contributed to the escalation of health care costs. It is we who decide when a patient should be hospitalized and for how long; it

is we who decide if a patient should have an operation or be admitted to the intensive care unit; it is we who decide if a patient should have a CT scan, endoscopy, coronary angiography or dialysis. It is we who prescribe drugs.

Therefore, we must accept our share of the blame for rising health care costs which in 1982 exceeded 10% of the gross national product for the first time. For reasons that aren't readily apparent, some economists believe that this is too much. However, relatively, it is no greater than health care expenditures in West Germany or Sweden and only slightly more than in the Netherlands and France. Are jobs provided by the health care industry any less desirable than those provided by the automobile or steel industries? Why is it a sign of economic decadence if a country chooses to spend more on health care and less on something else?

To the extent that the escalation of health care costs is due to inappropriate use of hospitals, procedures, physicians' services and drugs, we are to blame.

But there is a limit to cost savings that can be achieved by more appropriate utilization of hospitals and the tightening of hospital fiscal policies. When the "fat" has been squeezed out, further savings will necessarily encroach upon quality of care for the American people.

Cost containment efforts by the government, by the industry and by third party carriers are always implemented with a passing reference to maintenance of quality of care. More and more this is just lip service as cost containment becomes the overriding concern of federal health planners, health economists, and industry and third party carriers.

Only physicians can judge quality of care. That is why it is so crucial that physicians participate and have input at all levels in the efforts to contain costs, from the halls of congress to the local utilization review committees.

The annual cost of medical care to the American people has increased enormously from $26.9 billion in 1960 to $287 billion in 1981. This represents an increase from 5.3% to 9.8% of the gross national product. What have they received for this considerable expenditure?

I would answer this with the self-serving but true statement: "The best medical care in the world." But how to measure this? Infant mortality has decreased in this country from 26 to 11.7 per 1000 live births in the last 20 years. Average life span has increased from 69.7 years in 1960 to 74.1 years in 1981 (69.9 years for men and 77.6 years for women). Death rate from stroke has declined more than 40% and death rate from heart attack has declined by 30% in the last 10 years. Overall death rate has declined by 25% in the last 20 years. It is estimated that in 1978 alone there were 350,000 fewer deaths than would have been anticipated had the trend in cardiovascular mortality rate of the 1960s continued into the 1970s.

Prolongation of life would seem to be a desirable and a worthwhile accomplishment. But it increases the cost of medical care! For each year we add to the life of a 65-year-old person, we add $2,200 to total health care expenditures. There are now more than 25 million Americans 65 years of age or older and with each of them living longer, the cost of medical care increases. I hesitate to mention this, lest it might suggest to some bureaucrat in HCFA a macabre solution to the problem of Medicare expenditures.

Intensive care units are expensive and some question their cost effectiveness. Twenty years ago, only 10% of U.S. hospitals with 200 beds or more had ICUs. Today 99% of hospitals have ICUs—totaling 68,500 beds. The cost for an ICU bed is approximately four times greater than costs for an ordinary hospital bed. ICUs account for about 20% of all hospital costs, or 1% of the GNP. It is estimated that 1.1 million patients with acute myocardial infarctions were treated in coronary care units in the United States in 1977. Since the advent of coronary care units, the mortality rate for acute myocardial infarction has declined from 25% to 15%.

I know of no health planner, governmental official, industry leader or critic of our health care system who was refused admission to a coronary care unit when seized with a crushing chest pain that brings perspiration to the forehead and a feeling of impending doom that eclipses all concerns about cost.

Coronary bypass operations were unheard of 20 years ago. In 1981, 159,000 such operations were carried out in the United States at a cost of over two billion dollars. It is impossible to estimate how many lives have been prolonged and how many people have been rehabilitated by this operation.

The health care bill paid by the American people has not only purchased a longer life but also a more productive, happier life—that intangible known as quality of life. Measles, mumps, whooping cough, polio, diphtheria, scarlet fever and tuberculosis have almost been eliminated. Thanks to modern eye surgery including lens implants, corneal transplants, vitrectomy and laser therapy, the blind are made to see

and through the miracle of joint replacement the lame have been made to walk again.

Renal transplantation and hemodialysis now cost the nation over 1.5 billion dollars a year but more than 60,000 people owe their lives to these modalities which were considered investigational 20 years ago. What health planner or economist or bureaucrat would prefer to die of uremia rather than avail himself or herself of hemodialysis or renal transplantation? Although I have already acknowledged that some cost savings can be achieved by more appropriate utilization of hospitals and technical procedures and better fiscal policies in the management of hospitals, I submit that the American people have reaped tremendous benefit for their health care dollar.

In a very illuminating but so far unpublished treatise on "The High Cost?? of Health Care—Would You Like a Roaring 50s Contract?" Dr. Richard Sabransky only half facetiously calculated that Medical Mutual could offer a "Roaring 50s" contract, worth $8.30 per month in 1950 at $24.36 per month in 1982 dollars. Of course it would cover only those benefits that were included in the 1950 contract. He lists some 45 benefits that wouldn't be covered by the Roaring 50s contract because they weren't even in existence in 1950. Some of them are: care in surgical and medical intensive care units, coronary angiography, coronary bypass, CT scans, digital substraction angiography, hyperalimentation, cardiac rehabilitation, endoscopy, holter monitor, marrow transplant, cryosurgery and transluminal angioplasty. Who wants a Roaring 50s contract at $24.36 a month when for $68 a month you can get all of these additional benefits and more?

It is easy for the bureaucrat in Washington to write regulations that limit reimbursement to hospitals for Medicare patients by imposing DRGs. It is easy for utilization review organizations to decide in retrospect that a patient with abdominal or chest pains should not have been admitted to the hospital or that a patient who is under observation for a fever of unknown origin or changing neurologic signs is logging a "nonacute day." It is easy for the health planner or the leader of industry to tell us that we should practice more cost effective medicine—which means that we don't order any tests or procedures that are unnecessary but that we order all of those that are!

It is not so easy for a conscientious physician who has the responsibility and concern for his patients to decide which patient with chest or abdominal pain can be safely observed as an outpatient and which should be admitted to the hospital. It is not so easy to decide when an elderly patient with osteoarthritis and poorly controlled diabetes can safely go home following a bout of pneumonia, even though he or she has overstayed the allowance for the DRG. It is not so easy to decide when a patient with atypical chest pain should have a stress test. If the physician orders it and it is normal, he may be accused of being an "elaborate provider." If he doesn't order it, and the patient drops dead the next day, he may be sued.

Persistent efforts to contain the escalation of health care costs within the magic 10% of the GNP or within the limitations of the consumer price index will sooner or later impinge on quality of care.

A high technology, labor intensive service industry such as health care cannot be restrained to the CPI without eliminating services or rationing care by limiting access or providing two tiers of medical care which is repugnant to all of us.

I recall the early days of renal transplantation when reimbursement was not provided by the government or third party carriers. The board of governors at the Cleveland Clinic agreed to subsidize transplantation for 10 patients a year. A committee was appointed to decide which 10 of the scores of candidates for this procedure would be selected. All had end-stage renal failure and were doomed to die within a few months if they weren't transplanted because we didn't have adequate facilities for maintenance dialysis. I do not want to go back to those days. I, for one, do not ever again want to choose who shall live and who shall die. Yet rationing of care means just that, in England. Under their system of government medicine, it is an unwritten but self-enforced rule that patients over 65 years of age dying of renal failure are not offered maintenance dialysis.

When health care is rationed, who will decide which patients crippled with painful osteoarthritis will have hip or knee joint replacement and which will not? Who will decide which blind patients will have sight restoring cataract surgery or corneal transplants? Who will decide which patients with life-threatening arrhythmias will have pacemakers implanted and which will not? Who will decide which patients will be admitted to coronary or neurologic intensive care units and which are to be denied the chance to live in the name of cost containment?

Further breakthroughs in diagnostic and therapeutic technologies are jeopardized by unreasonably stringent cost containment efforts. What of nuclear magnetic reso-

nance which promises to be greatly superior to the CT scan in some of its diagnostic capabilities? Are hospitals going to find it impossible to acquire NMR equipment? Positron emission tomography promises to open a new vista into the physiology and pathophysiology of intact human organs but will it be too costly? What of heart transplantation which is now where renal transplantation was 20 years ago? And the artificial heart? Shall further investigation of this be abandoned?

Research and development of new, less invasive methods of visualising coronary arteries may eventually replace coronary angiography, and the laser may replace coronary bypass surgery; but research and development of this technology will be expensive, perhaps too expensive if we are to contain health care costs within 10% of the GNP advocated by some.

We must realise that our resources are finite and the time may come—or may already be here—when we simply can't afford the exploding technology which promises us an even healthier future. But that decision should be made by our patients, the American people—not by bureaucrats, industrialists and health planners.

Our profession is under attack, our traditional modes of practice are being challenged and changed. The very existence of some hospitals is being threatened. The health care industry is at the crossroads.

But from every crisis arises an opportunity and a challenge and I am confident that the medical profession will seize this opportunity and rise to this challenge:

We can and will practice more cost effective medicine without jeopardizing quality.

We can and will work with hospitals to hold down costs by more appropriate utilization practices.

We will continue to practice self restraint in our fee schedules.

We will not let quality fall victim to indiscriminate cost containment.

We will resist attempts to ration medical care or to establish a two-tier system of medical care.

We must inform our patients about the risks of stringent cost containment. Nobody else will.

We will continue to be the patient's advocate—because it is the American people who stand to lose most if efforts at cost containment are not skillfully, judiciously and sensitively applied. OSMA

ITEM 2.—STATEMENTS SUBMITTED BY THE HEARING AUDIENCE

During the hearing, a form was made available to audience members who wished to make comments and recommendations but were unable to testify because of time limitations. The form read as follows:

DEAR SENATOR GLENN. If there had been time for me to testify at today's hearing, "Prospects for Better Health for Older Women," I would have said the following:

Following are excerpts from the over 250 replies received:

As president of the Toledo Chapter of the National Organization for Women and as a social worker in the service to the elderly, I am well aware of the roots of poor health care, standards of living, and economic deprivation of women who are elderly. Women who are aged are experiencing a far greater poverty than men, relying on state aid—a very inadequate means of addressing women's health care problems. Women are economically oppressed through labor discrimination, wage disparity, and the clustering of women into low-paid, fewer benefit jobs. It is most significantly, the economic and labor oppression in the work years that later results in extreme poverty, dependence, poor nutrition, inadequate living environments, inadequate health care, and extreme mental health problems for older women.

The National Organization for Women in Toledo is concerned that the rights and needs of all women be addressed as a prevention and assistance to address the concerns of women.

DARLENE H. GOATLEY,
President.

In order for older women to have better health, preventative medicine is necessary! One aspect of preventative health care is the medications prescribed by physicians. Many older women cannot afford the high cost of prescription drugs. Medicaid in Ohio should be expanded to cover prescription drugs and there should also be a statewide program to help those not on Medicaid, but still having trouble paying for their prescription drugs. Several states already have such programs.

DEBRA L. MARCAL,
Cleveland, Ohio.

My problem is how I am going to afford to survive as a single woman caught in the middle (age 54). The health and medical insurance, which has only direct pay coverage available, is expensive for no coverage worth a hill of beans, and if you can afford the cost, you are still taken to the poor house owing medical bills not covered.

BERNADINE SMART,
Toledo, Ohio.

As a graduate student at the Medical College of Ohio in gerontology, I would like to emphasize the need for studies in gerontology to be supported and encouraged. The elderly are in need of highly trained specialists delivering pertinent and scientific information in programs that encourage independent self care practices. Continue allocation of funds to support and supplement educational fees. Thank you for your support and concern.

DEBI SAMPSEL, R.N.,
Genoa, Ohio.

I would love to see every pharmacy school put a mandatory course for "Geriatric Pharmacy" which should complement "Geriatric Medicine". For the practitioner in community pharmacy, this is vital. Pharmacists are one of the best friends of the elderly.

Dr. AMAR BHATTACHARYA,
Ada, Ohio.

I could simply cry on your shoulder. I have worked all my life—always at good jobs and now I live on $292 a month. In 1966, the year that high salaries began to be paid, I gave up my job and my pension to care for my invalid mother rather than make her a subject of the state and allow her to live in her home and die there. I am a veteran of WWII and the Korean conflict, and though age 70, am unable to pay medical bills. Now President Reagan is cutting medical care for us. These problems cause older people constant worry, nervousness, fear, sleepless nights which in turn cause many illnesses.

ETHEL F. BOISVERT,
Perrysburg, Ohio.

I believe what was said was true, but from my experiences I believe that if we had better health conditions on our jobs, we would be in better health. Also, food is the last thing on the budget list, after house heat, electricity, gas, water and clothes. We eat just to fill us up. Good or bad, whatever we can afford. My wife works and I am on Social Security.

Mr. SHERMAN D. KING,
Wauseon, Ohio.

As a faculty member in the Office of Geriatrics/Gerontology, Department of Medicine, MCO and responsible for teaching medical students and resident physicians, I am impressed that we at MCO are doing a good job generally teaching about the diagnosis and management of illnesses associated with older age (MI's, ISH, polypharmacy issues, etc.) More and more young doctors are electing instruction in clinical geriatrics from us.

But the greatest health needs of older persons aren't illness oriented. These needs have to do with such things as: getting proper nutrition; having access to appropriate housing; availability of supervised help for living at home; and transportation to get to MD, exercise programs, the grocery store, etc.

So, we're also introducing our students to members of the Northwest Ohio Gerontological Association and the Greater Toledo Area Coalition on Aging—health professionals who can work with physicians currently practicing in our community in the sort of networking and collaboration that we are encouraging our graduates to use as they treat their older patients.

PATRICIA SHANAHAN,
Medical College of Ohio, Toledo, Ohio.

I am deeply concerned about how better health care for older women can be attained, and in particular for lower income groups, while we are suffering from increasing cuts in domestic programs and while poverty is on the increase in America. Yet, at the same time, our military budget, our deficit, and our interest payments have ballooned. Our medical research in general has been threatened to be cut. I

trust that you will vote to assure that our budget will not be balanced on the backs of elderly women and the poor, but instead increase spending for domestic programs.

DEBI SCHUT,
Occupational Therapist, Toledo, Ohio.

I would have made the following points:

Require readable, big-print instructions for use on over-the-counter medicine for safety and convenience of persons with impaired vision.

Begin health education earlier and stress prevention and health maintenance.

Schedule more exercise programs, activities, and nutrition programs for adults at accessible neighborhood schools during late afternoon hours and weekends.

Assure adequate financing of medical care through adequate Medicare, etc. Just worrying about medical costs causes stress and aggravates illnesses.

CAROLYN WILLIS,
Toledo, Ohio.

I feel that to address the prevention of disease among the aged is to address the young and the nearer middle-aged to begin a program that will prepare them for when they are aged. I believe that women when they enter the work force and begin to age need to be aware of the future. In the same vein, I would like to see the inequities of the Social Security system changed to give women the same financial advantages that are given to men.

BESSIE SPANOEL,
Vice President, Coalition of Labor Union Women,
Youngstown, Ohio.

Home health care, including hospice, needs to be expanded to assist aging and terminally ill adults to remain at home and independent for as long as possible. Home health care is effective and provides the elderly with the opportunity to remain with family and community for as long as possible.

Education needs to be done to make the elderly aware that, with help, they can remain at home. Many families see extended care facilities as the only option for them, when in fact, a small amount of assistance may meet their needs.

GLYNIS LAING, R.N., PhD,
Director, Community Hospice Program,
Lutheran Medical Center, Toledo, Ohio.

Adult day care centers for the frail elderly that are properly structured and staffed can contribute a good deal to a healthier older population and make their lifestyle richer and moreover, help to prevent premature institutionalization. This kind of program needs to be encouraged, studied and funded.

AUDREY K. PENNER,
Howard, Ohio.

We need: More effective nutrition education; to integrate preventative measures into lifestyle/society . . . i.e., exercise, safe walkways, community planning to include shops within walking distance; i.e., nutrition—a food industry that combines convenience with good nutrition, restaurants that emphasize nutritious foods; to combat misinformation which is especially alluring to older persons with chronic health problems.

SHARON REBMANN,
Registered Dietician, Toledo, Ohio.

Keep loving, serving, giving, exercising and functioning. Stay active in social, religious and family affairs and civic and political concerns.

Rev. D.V. WHITENACH,
Toledo, Ohio.

Better health for older women begins with good health habits learned earlier in life and continued. For example, exercise and calcium intake help to have laid a good bone matrix before bone depletion begins. We may need to work more closely

with emphasis finally being placed on health habits early in school age. The lifespan of these children will be much greater than ours.

Older women can set good food examples. "If it's good for mom or grandma, it's good for me . . ."

Keep up your wonderful work protecting the elderly. I've always admired your work.

GEORGIA ROEBUCK, R.N., M.N.,
Lancaster, Ohio.

A particular need of health that is essential, extremely important, and in need of address and support for older adults is the area of creative mental health. Without a healthy state of mind the physical body is meaningless.

The creative arts provide older adults with self-esteem, a meaningful role in society, constructive activity, and a means to express their capabilities. The creative arts are a means to preventive mental health and life-long activity in decision making, creative thinking, personal enjoyment, as well as physical activity.

Programs and services in the arts/creative mental health need to be supported and developed equally with the physical areas of better health for older adults. Healthier minds and bodies are a natural resource to utilize and benefit from in meeting the growing needs of a growing elderly population.

MARTIN NAGY,
Common Space, Toledo, Ohio.